

Appendices

Appendices

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**Member List of the survey Team
For
Basic Design Study on
The Project for Upgrade of USPNet Communications System**

1 Field Survey

Masao Yoshida	Leader
Hiroyuki Irie	Development Specialist (Education media), JICA Grant Aid Cooperation Grant Aid Division, Economic Cooperation Bureau, Ministry of foreign Affairs
Masafumi Nagaishi	Project Coordinator Second Project Study Division, Grant Aid Project Study Department, JICA
Toshio Kosuge	Technical Advisor (Distance Education) Professor, Department of Communication Systems, University of Electro-Communications
Atsushi Nakaya	Technical Advisor (Satellite Network System) Trunk Communications Division, Radio Department, Telecommunications Bureau, Ministry of Posts and Telecommunications
Katsumi Yamamoto	Chief Consultant KDD Engineering and Consulting, Inc.
Kenzo Yamaki	Satellite Communication Planner KDD Engineering and Consulting, Inc.
Motoo Tachikawa	Communications Facilities Planner KDD Engineering and Consulting, Inc.
Yoshimoto Ito	Communications Facilities Planner KDD Engineering and Consulting, Inc.
Ryusuke Takehira	Communications Facilities Planner KDD Engineering and Consulting, Inc.
Tadaichi Sada	Procurement Planner KDD Engineering and Consulting, Inc.

2 Consultation on Draft Report

Masao Yoshida	Leader Development Specialist (Education media), JICA
Hiroyuki Irie	Grant Aid Cooperation Grant Aid Division, Economic Cooperation Bureau, Ministry of foreign Affairs
Norihiro Ikeda	Project Coordinator First Project Management Division, Grant Aid Project Study Department, JICA
Toshio Kosuge	Technical Advisor (Satellite Network System) Professor, Department of Communication Systems, University of Electro-Communications
Katsumi Yamamoto	Chief Consultant KDD Engineering and Consulting, Inc.
Kenzo Yamaki	Satellite Communication Planner KDD Engineering and Consulting, Inc.
Tadaichi Sada	Procurement Planner KDD Engineering and Consulting, Inc.

**Survey Schedule
of
Basic Design Study on
The Project for Upgrade of USPNet Communications System**

- 1 Field Survey**
- 2 Consultation on Draft Report**

Basic Design Study Schedule
20th September to 23rd October, 1997

Sequential day	Date	Day	Itinerary	Survey Schedule
1	20-Sep	Sat	Lv. Japan	Leading group leaves Japan
2	21-Sep	Sun	Arv. New Zealand (Wellington)	Travel
3	22-Sep	Mon	New Zealand	Courtesy visit to Japanese Embassy Meeting with NZODA and AusAID
4	23-Sep	Tue	New Zealand	Meeting with NZODA and AusAID
5	24-Sep	Wed	Lv. Wellington Arv. Auckland	Travel in New Zealand
6	25-Sep	Thu	Lv. New Zealand Arv. Fiji	Travel
			Lv. Japan	Trailing group leaves Japan
7	26-Sep	Fri	Arv. Fiji (Suva)	Trailing group arrives at Fiji Merge with leading group
			Fiji	Courtesy visit to Ministry of Education and Ministry of Communications Visit USP, Discuss the Project
8	27-Sep	Sat	Fiji	Discussion with USP
9	28-Sep	Sun	Fiji	Internal meeting Team C leaves for field survey
10	29-Sep	Mon	Fiji	Discussion with USP
11	30-Sep	Tue	Fiji	Discussion on draft M/D
12	1-Oct	Wed	Fiji	Sign on M/D Teams A and B leave for field survey

Continues to the schedule of individual team.

Schedule

Team A

Sequential day	Date	Day	Itinerary	Flight	Survey Schedule
11	30-Sep	Tue	Arv. Cook Is.	NZ046 Arv. Rarotonga 23:30	Travel
12	1-Oct	Wed	Lv. Fiji Cook Is.	PC137 Lv. Suva 16:30 Arv. Nadi 16:55 NZ046 Lv. Nadi 18:25	Visit USP, Discuss the project, Visit Telecommunications Administration and Education Administration, Visit Telecommunications Operator
13	2-Oct	Thu	Cook Is.		Earth Station site survey
14	3-Oct	Fri	Cook Is.		On site general survey
15	4-Oct	Sat	Lv. Cook Is.	NZ017 Lv. Rarotonga 06:05	Travel
16	5-Oct	Sun	Arv. New Zealand	Arv. Auckland 09:15	Travel
17	6-Oct	Mon	Lv. New Zealand Arv. Niue	NZ302 Lv. Auckland 09:15 Arv. Tongatapu 12:05 WR501 Arv. Niue 20:50	Courtesy visit to USP
18	7-Oct	Tue	Lv. Tonga Niue	WR501 Lv. Tongatapu 19:00	Visit USP, Discuss the project, Visit Telecommunications Administration and Education Administration, Visit Telecommunications Operator
19	8-Oct	Wed	Niue		Earth Station site survey
20	9-Oct	Thu	Lv. Niue	WR523 Lv. Niue 13:30	On site general survey
21	10-Oct	Fri	Arv. Tonga	WR523 Arv. Tongatapu 14:35	Travel
22	11-Oct	Sat	Tonga		Review of survey results
23	12-Oct	Sun	Tonga		Review of survey results
24	13-Oct	Mon	Tonga		Visit USP, Discuss the project, Visit Telecommunications Administration and Education Administration, Visit Telecommunications Operator
25	14-Oct	Tue	Tonga		Earth Station site survey
26	15-Oct	Wed	Tonga		On site general survey
27	16-Oct	Thu	Lv. Tonga Arv. Fiji	WR301 Lv. Tongatapu 03:00 Arv. Nadi 03:30 PC231 Lv. Nadi 08:00 Arv. Suva 08:25	Travel
28	17-Oct	Fri	Fiji		On site general survey
29	18-Oct	Sat	Fiji		Review of survey results
30	19-Oct	Sun	Fiji		Review of survey results
31	20-Oct	Mon	Fiji		Discuss the project with USP
32	21-Oct	Tue	Fiji		Discuss the project with USP
33	22-Oct	Wed	Fiji	PC137 Lv. Suva 16:30 Arv. Nadi 16:55	Discuss the project with USP
34	23-Oct	Thu	Lv. Fiji Arv. Japan	FJ302 Lv. Nadi 08:10 Arv. Narita 13:55	Travel

Schedule

Team B

Sequential day	Date	Day	Itinerary	Flight	Survey Schedule
12	1-Oct	Wed	Fiji	PG137 Lv. Suva 16:30 Arv. Nadi 16:55	Travel
13	2-Oct	Thu	Lv. Fiji Arv. Marshall Is.	CW122 Lv. Nadi 11:00 Arv. Majuro 17:25	Travel
14	3-Oct	Fri	Marshall Is.		Courtesy visit to Japanese Embassy, Visit USP, Discuss the project, Visit Telecommunications Administration and Education Administration,
15	4-Oct	Sat	Marshall Is.		Review of survey results
16	5-Oct	Sun	Marshall Is.		Review of survey results
17	6-Oct	Mon	Marshall Is.		Earth Station site survey
18	7-Oct	Tue	Lv. Marshall Is. Arv. Kiribati	CW121 Lv. Majuro 08:00 Arv. Tarawa 09:15	Visit USP, Discuss the project, Visit Telecommunications Administration and Education Administration
19	8-Oct	Wed	Kiribati		Earth Station site survey, Visit Telecommunications Operator
20	9-Oct	Thu	Kiribati		On site general survey
21	10-Oct	Fri	Lv. Kiribati Arv. Nauru	ON152 Lv. Tarawa 09:30 Arv. Nauru 10:40	Visit USP, Discuss the project
22	11-Oct	Sat	Nauru		Earth Station site survey
23	12-Oct	Sun	Nauru		Review of survey results
24	13-Oct	Mon	Nauru		Visit Telecommunications Administration and Education Administration, Visit Telecommunications Operator
25	14-Oct	Tue	Lv. Nauru via Kiribati Arv. Tuvalu	ON121 Lv. Nauru 05:20 Arv. Tarawa 06:30 CW121 Lv. Tarawa 09:45 Arv. Funafuti 12:00	Visit USP, Discuss the project
26	15-Oct	Wed	Tuvalu		Visit Telecommunications Administration and Education Administration, Visit Telecommunications Operator
27	16-Oct	Thu	Tuvalu		Earth Station site survey
28	17-Oct	Fri	Tuvalu		On site general survey
29	18-Oct	Sat	Tuvalu		Review of survey results
30	19-Oct	Sun	Lv. Tuvalu Arv. Fiji	CW123 Lv. Funafuti 12:30 Arv. Suva	Travel
31	20-Oct	Mon	Fiji		Discuss the project with USP
32	21-Oct	Tue	Fiji		Discuss the project with USP
33	22-Oct	Wed	Fiji	PG137 Lv. Suva 16:30 Arv. Nadi 16:55	Discuss the project with USP
34	23-Oct	Thu	Lv. Fiji Arv. Japan	FJ302 Lv. Nadi 08:10 Arv. Narita 13:55	Travel

Schedule

Team C

Sequential day	Date	Day	Itinerary	Flight	Survey Schedule
8	27-Sep	Sat	Fiji domestic travel Arv. Samoa	PC137 Lv. Suva 16:30 Arv. Nadi 16:55 FJ560 Arv. Apia 10:50	Travel
9	28-Sep	Sun	Lv. Fiji	FJ560 Lv. Nadi 08:00	Travel
10	29-Sep	Mon	Samoa		Ship waiting Courtesy visit to JICA office
11	30-Sep	Tue	Samoa		Decided to abort Tokelau survey due to one week delay of ship schedule caused by generator trouble. Visit Tokelau
12	1-Oct	Wed	Samoa		Visit Tokelau Administration Office
13	2-Oct	Thu	Samoa		Visit Tokelau Administration Office
14	3-Oct	Fri	Samoa		Visit Tokelau Administration Office
15	4-Oct	Sat	Samoa		Review of survey results
16	5-Oct	Sun	Samoa		Review of survey results
17	6-Oct	Mon	Samoa		Visit USP, Discuss the project, Visit Telecommunications Administration and Education Administration
18	7-Oct	Tue	Samoa		Visit Telecommunications Operator
19	8-Oct	Wed	Samoa		Earth Station site survey
20	9-Oct	Thu	Lv. Samoa	FJ253 Lv. Apia 05:00	Travel
21	10-Oct	Fri	Arv. Fiji	FJ253 Arv. Nadi 06:00	Travel
22	11-Oct	Sat	Fiji		Review of survey results
23	12-Oct	Sun	Lv. Fiji Arv. Vanuatu	FJ500 Lv. Nadi 08:00 Arv. Port Villa 08:40	Travel
24	13-Oct	Mon	Vanuatu		Visit USP, Discuss the project, Visit Telecommunications Administration and Education Administration, Visit Telecommunications Operator
25	14-Oct	Tue	Lv. Vanuatu Arv. Solomon Is.	IE711 Lv. Port Villa 18:40 Arv. Honiara 20:40	Earth Station site survey
26	15-Oct	Wed	Solomon Is.		Courtesy visit to Japanese Embassy, Visit USP, Discuss the project, Visit Telecommunications Administration and Education Administration, Visit Telecommunications Operator
27	16-Oct	Thu	Solomon Is.		Earth Station site survey
28	17-Oct	Fri	Solomon Is.		On site general survey
29	18-Oct	Sat	Lv. Solomon Is. Arv. Fiji	FJ501 Lv. Honiara 14:10 Arv. Nadi 19:30	Travel
30	19-Oct	Sun	Fiji	PC128 Lv. Nadi 11:00 Arv. Suva 11:25	Review of survey results
31	20-Oct	Mon	Fiji		Discuss the project with USP
32	21-Oct	Tue	Fiji		Discuss the project with USP
33	22-Oct	Wed	Fiji	PC137 Lv. Suva 16:30 Arv. Nadi 16:55	Discuss the project with USP
34	23-Oct	Thu	Lv. Fiji Arv. Japan	FJ302 Lv. Nadi 08:10 Arv. Narita 13:55	Travel

Basic Design Study Schedule
(Consultation of Draft Report)
22nd February to 7th March, 1998

Sequential day	Date	Day	Itinerary	Survey Schedule
1	22-Feb	Sun	Lv. Japan Arv. Samoa (Apia)	Leading group leaves Japan
2	23-Feb	Mon	Samoa	Meeting with JICA Samoa Office Courtesy Call on Ministry of Foreign Affairs Coutesy Call on USP Alafua Campus
3	24-Feb	Tue	Samoa	Courtesy Call on Treasury Department Consultation with USP and Government of
4	25-Feb	Wed	Samoa	Delivery of Memorandum of meeting to Government of Samoa and USP
5	26-Feb	Thu	Lv. Samoa	Travel
6	27-Feb	Fri	Arv. Fiji (Suva)	Travel Meeting with JICA Fiji Office Courtesy Call on Embassy of Japan Courtesy Call on Ministry of Communications Courtesy Call on USP
7	28-Feb	Sat	Fiji	Review of consultation results
			Lv. Japan	Trailing group leaves Japan
8	1-Mar	Sun	Arv. Fiji	Trailing group merges with leading group
			Fiji	Internal meeting
9	2-Mar	Mon	Fiji	Joint Consultation on Draft B/D Report with
10	3-Mar	Tue	Fiji	Joint Consultation on Draft B/D Report with
11	4-Mar	Wed	Fiji	Courtesy Call on Ministry of Foreign Affairs Sign on M/D Report to JICA Fiji Office Report to Embassy of Japan
12	5-Mar	Thu	Fiji	Additional survey in Fiji (two members)
			Lv. Fiji Arv. New Zealand	Travel (three members)
13	6-Mar	Fri	Fiji	Additional survey in Fiji (two members)
			New Zealand	Report to Embassy of Japan (three members)
14	7-Mar	Sat	Lv. Fiji and New Zealand Arv. Japan	Travel

**List of Party Concerned
on
Basic Design Study on
The Project for Upgrade of USPNet Communications System**

1 Field Survey

1.1 Fiji

(1) Embassy of Japan

Mr. Jiro Kobayashi (H.E. Ambassador of Japan)

Mr. Takahiro Yano (Second Secretary)

(2) JICA Office

Mr. Yasushi Inaba (Resident Representative)

Mr. Kyoji Mizutani (Deputy Resident Representative)

Mr. Takayuki Jimbo (Assistant Resident Representative)

(3) USP

Dr. Esekia Solofa (Vice-Chancellor)

Professor Rajesh Chandra (Deputy Vice-Chancellor)

Mr. Richard Mann (Director, Planning and Development Office)

Dr. John Clayton (Director, Computer Services)

Dr. Howard Van-Trease (Director, University Extension)

Mr. Ian Banner (Director, Physical Planning and Facilities)

**Mr. Kevin Maitava (Communications Manager,
University Extension)**

(4) Ministry of Communications, Works and Energy

Mr. Josua Turaganivalu (Director, Telecommunications)

(5) Ministry of Education

Ms. Aileen Croghan (Principal Officer)

Mr. Wanga

Professor Peter Varley

(6) Ministry of Foreign Affairs

Mrs. Taina Tagicakibau (Acting Deputy Permanent Secretary)

(7) Embassy of New Zealand

Ms. Ngawini Keelan (Second Secretary)

1.2 Samoa

- (1) USP Centre (Malifa Campus)**
Ms. Makerita Va'ai (Director)
- (2) USP Alafua Campus**
Professor W. A. Pattie (Pro Vice-chancellor)
Mr. Aloimaina S. Kaisala Falesi'I (Works Superintendent)
Mr. Rudy Bartley (Video Officer)
- (3) Ministry of Foreign Affairs**
Mr. Mose Sua (Secretary)
- (4) Department of Education**
Hon. Fiame Naomi (Minister)
Ms. Sinapi Moli (Assistant Director, Planning & Research)
- (5) Department of Posts and Telecommunications**
Mr. Talitaga Pemila (Assistant Director, Telecommunications)
Mr. Nerony Lam Sam (Assistant Director, Finance)
- (6) Maluafofua Earth Station**
Mr. Mamea Leautuli (Assistant Chief Technical Officer)
Mr. Waikato Fatu (Senior Technical Officer)
- (7) JICA Office**
Mr. Hidetoshi Takama (Resident Representative)
Mr. Yutaka Fukase (Assistant Resident Representative)
- (8) New Zealand High Commission**
Mr. Michael W. M. Walsh (Second Secretary (Aid))
- (9) Australian High Commission in Samoa**
Mr. Chris Wheeler (First Secretary)
- (10) Apia Observatory**
Mr. Faatoia Malele (Manager)

1.3 Vanuatu

- (1) USP Centre**
Mr. Jean-Pierre Nirua (Director)
- (2) USP Emalus Campus**
Professor John Lynch (Pro Vice-Chancellor)
Mr. Steve Nako (Computer Manager)

- (3) Ministry of Communications
 - Hon. Demis Lango (Minister)
 - Mr. Theodore Titus Silong (Second Secretary)
- (4) Ministry of Education
 - Mr. Mermer Gilbert (Second Secretary)
- (5) Telecom Vanuatu
 - Mr. Daniel Fermine (Managing Director)
 - Mr. Richard Hall (Deputy General Manager)

1.4 Cook Islands

- (1) USP Centre
 - Ms. Shona Avien (Secretary)
- (2) Education Department
 - Mr. Lionel Brown (Deputy Director)
 - Mr. Jack Varney (Technical Consultant)
- (3) Telecom Cook Islands
 - Mr. Stuart Davies (Chief Executive and Managing director)
- (4) New Zealand High Commission
 - Mr. Anton Ojara (Deputy High Commissioner)

1.5 Kiribati

- (1) USP Centre
 - Ms. Beta Tewareka (Centre Director)
 - Mr. Kirata Apisai (Electrician)
- (2) Ministry of Education, training and Technology
 - Mr. Taakei Taoaba (Secretary)
- (3) Ministry of Information, Communications and Transport
 - Mr. Meita Beiabure (Secretary)
- (4) Telecom Services Kiribati Limited
 - Mr. Cliff Macalpine (Chief Executive Officer)

1.6 Marshall Islands

- (1) Embassy of Japan in Marshall Islands
 - Mr. Atsuo Saegusa (H.E. Ambassador)
 - Mr. Akiyuki Kataoka (Third Officer)

(2) USP Centre

Mr. Anare Vanibokoi-Tuitoga (Centre Lecturer)

(3) Ministry of Education

Mr. Cent Langidrik (Secretary)

(4) Ministry of Transportation and Communications

Mr. Edinal E. Jorkan (Secretary)

Mr. Anthony Mitta Muller (Deputy Director, Communications)

(5) National Telecommunications Authority

Mr. Wooden M. Ishoda (Manager, Earth Station/Plant Facilities)

1.7 Nauru

(1) USP Centre

Ms. Maria Gaiyabu (Director)

Ms. Ann Keke (Program Assistant)

(2) Department of Island Development & Industries

Mr. Criden Appi (Director, Telecommunications)

Mr. Joseph Cain (Senior Projects Officer)

(3) Department of Education

Mr. Baron Waga (Director, Education)

(4) Port Authority

Mr. Rolf Undeardahl (Harbor Master)

1.8 Niue

(1) USP Centre

Ms. Vilisi Balawa (Acting Director)

(2) Department of Economic Development

Hon. Pavihi (Minister for Economic Development)

(3) Department of Telecommunications

Hon. Terry Coe (Minister for Telecommunications)

(4) Department of External Affairs

Ms. Sisilia Talagi (Head of External Affairs)

Mr. Stanley Karauni (External Affairs Officer)

(5) Technical Consultant

Mr. Richard St. Clair (Technical Consultant)

(6) Telecom Niue

Mr. Richard Hipa (Director, Telecommunications)

- (7) New Zealand High Commission
Mr. Mike Pointer (High Commissioner)

1.9 Solomon Islands

- (1) Embassy of Japan
Mr. Seijiro Shirahama (First Secretary, Consul)
Ms. Reiko Fukushima (Special Assistant)
- (2) USP Centre
Mr. E. Tuza (Acting Director)
- (3) Ministry of Education and Training
Mr. Derek B. Sikua (Permanent Secretary)
Mr. Moffat Behumu (Under Secretary)
Mr. Johnson Moffat Ramoni (Under Secretary)
- (4) Ministry of Transport, Communication and Works
Mr. Walter R. Ramo (Permanent Secretary)
Mr. Robert Bokelema (Spectrum Management Director)
- (5) Solomon Telecom
Mr. Martyn Robinson (General Manager)
Mr. Loyley Ngira (Sales & Marketing Manager)
Mr. Michael Palmer (Senior Engineer, Earth Station)

1.10 Tokelau

- (1) USP Centre
Ms. Makerita Va'ai (Director, USP Samoa Centre)
Mr. Lepaio Simi (Coordinator, Tokelau)
- (2) Department of Transport and Communications,
(Tokelau Administration Office)
Dr. Iuta Tiniehu (Director)
Ms. Fiamaua Pouli (Transport Manager)
- (3) Department of Education (Tokelau Administration Office)
Ms. Tessa Kirifi (Officer)
- (4) Pacific Forum Line (Shipping)
Ms. Margaret Ryan (Travel & Shipping Agency Manager)

1.11 Tonga

(1) USP Centre

Ms. Salote Fukofuka (Director)

(2) Ministry of Foreign Affairs

Mr. Tevita Kolokihakaufisi (Principal Assistant Secretary)

(3) Ministry of Education

Mr. Mana Latu (Deputy Director, Education)

(4) Tonga Telecommunications Commission

Administration Manager

(5) Cable & Wireless

Mr. Jon Morris (General Manager)

Mr. Tim Katoanga (Engineering Manager)

(6) Tonga Institute of Science and Technology

Mr. Merino Kupu (Principal)

(7) JOCV Tonga Office

Ms. Yumi Yasaka (Coordinator)

1.12 Tuvalu

(1) USP Centre

Mr. Tito Isala (Acting Director)

Ms. Lupe Tarita (Clerical Assistant)

(2) Department of Education

Mr. Penehuro Hauma (Director, Education)

(3) Tuvalu Telecommunications company

Mr. Lopati Tefoto (General Manager)

Mr. Lopsyi Tefoto (Telecommunications Consultant)

Mr. Jefery Maula (Engineer)

1.13 New Zealand

(1) Embassy of Japan

Mr. Ikuo Mizuki (Minister)

Mr. Hiroyuki Ariyoshi (First Secretary)

(2) Ministry of Foreign Affairs and Trade

Mr. Trevor Hughes (Deputy Director, Development Cooperation Div.)

Mr. Geoff Lawson (Pacific Region Program manager, Development Cooperation Division)

Ms. Dedire Kerr (Policy Officer)

Mr. Peter Rushworth (Consultant)

Mr. Maurice French (Consultant)

1.14 Australia

(1) AusAID

Mr. Graham Costin (Engineering Adviser)

Professor Colin Latchem (Assistant Professor, University of Technology)

Mr. Ross Sanson (Program Coordinator, AusAID Wellington)

2 Consultation on Draft Report

2.1 Fiji

(1) Embassy of Japan

Mr. Keiichi Hasegawa (Counselor)

Mr. Yasunori Makita (First Secretary)

Mr. Takahiro Yano (Second Secretary)

(2) JICA Office

Mr. Yasushi Inaba (Resident Representative)

Mr. Takayuki Jimbo (Assistant Resident Representative)

Mr. Nariaki Mikuni (Assistant Resident Representative)

(3) USP

Professor Rajesh Chandra (Acting Vice-Chancellor)

Mr. Richard Mann (Director, Planning and Development Office)

Dr. John Clayton (Director, Computer Services)

Dr. Howard Van-Trease (Director, University Extension)

Mr. Kisione Finau (Manager, Computer Centre)

**Mr. Kevin Maitava (Communications Manager,
University Extension)**

(4) Ministry of Communications, Works and Energy

Mr. Josua Turaganivalu (Director, Telecommunications)

(5) Ministry of Foreign Affairs and External Trades

Mr. Isireli Koyamaibole (Acting Deputy Permanent Secretary)

(6) New Zealand High Commission

Ms. N. Hill (Second Secretary)

(7) Australian Embassy

Mr. Paul Kelly (Second Secretary)

2.2 Samoa

(1) USP Alafua Campus

Dr. Esekia Solofa (Vice-Chancellor)

Dr. Lafitai Fuatai (Acting Pro Vice-chancellor)

Ms. Makerita Va'ai (Director, USP Centre)

Mr. Ian Banner (Director, Physical Planning and Facilities)

Mr. Rudy Bartley (Video Officer)

(2) Ministry of Foreign Affairs

Mr. F. Vittoria Lui (Deputy Secretary)

Ms. Noumea Simi (Assistant Secretary)

(3) Treasury Department

Ms. Pisaina Leilua Lei-sam (Deputy Financial Secretary)

(4) Department of Posts and Telecommunications

Mr. Asamu E. Ah Sam (Assistant Director, Telecommunications)

Mr. Charlie Fluean (Engineering Officer)

(5) JICA Office

Mr. Hidetoshi Takama (Resident Representative)

Mr. Yutaka Fukase (Assistant Resident Representative)

(6) New Zealand High Commission

Mr. Michael W. M. Walsh (Second Secretary (Aid))

(7) Australian High Commission in Samoa

Mr. Chris Wheeler (First Secretary)

2.3 New Zealand

(1) Embassy of Japan

Mr. Ikuo Mizuki (Minister)

Mr. Hiroyuki Imai (Third Secretary)

(2) Ministry of Foreign Affairs and Trade

**Mr. Geoff Lawson (Pacific Region Program manager, Development
Cooperation Division)**

Mr. Peter Rushworth (Consultant)

2.4 Australia

(1) AusAID

Mr. Graham Costin (Engineering Adviser)

**Minutes of Discussion
on
Basic Design Study on
The Project for Upgrade of USPNet Communications System**

- 1. Minutes of Discussion at Field survey (Suva, October 1, 1997)**
- 2. Memorandum at Consultation on Draft Report
(Apia, February 25, 1998)**
- 3. Minutes of Discussion at Consultation on Draft Report
(Suva, March 4, 1998)**

MINUTES OF DISCUSSIONS
BASIC DESIGN STUDY ON
THE PROJECT FOR UPGRADE OF
USPNET COMMUNICATIONS SYSTEM
IN THE REPUBLIC OF FIJI

Based on the results of the Preliminary Study on the Project for Upgrade of USPNet Communications System (hereinafter referred to as "the Project"), the Japan International Cooperation Agency (hereinafter-referred to as "JICA") decided to conduct a Basic Design Study on the Project.

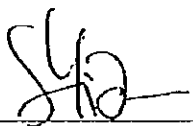
JICA sent to the Republic of Fiji a study team, headed by Masao Yoshida, Development Specialist of JICA, and was scheduled to stay in Fiji and other USP member countries (entities) from September 25 to October 22, 1997.

The team held discussions with the officials of the Government of Fiji and the USP (hereinafter referred to as "the Fiji side") and conducted a field survey at the study area. The Governments of Australia and New Zealand were also represented at the discussions.

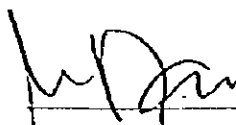
In the course of discussions and field survey, the parties have confirmed the main items described on the attached sheets.

The team will proceed with further work and prepare the Basic Design Study report.

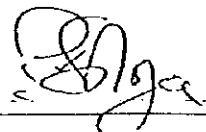
Suva, October 1, 1997



Mr. Masao Yoshida
Leader
Basic Design Study Team
JICA



Mrs. Taina Tagicakibau
Acting Deputy
Permanent Secretary
(Economic)
Ministry of Foreign Affairs



Mr. Esekia Solofa
Vice-Chancellor
The University of
the South Pacific

ATTACHMENT

1. Objective

The objective of the Project is to improve the communications system of the University of the South Pacific by means of the re-construction of USP's satellite communications network (USPNet) to achieve more efficient operation of the USP, to improve the delivery of the University's distance education program and to increase opportunities for citizens of the member countries (entities) to study at the Centers.

2. Project site

The Project site is located at Laucala campus of the USP in Suva, Fiji, shown in Annex 1.

3. Responsible organization and executing organization

- (1) Responsible organization: Ministry of Communication, Works and Energy
- (2) Executing organization: The University of the South Pacific

4. Items requested by the Fiji side

After discussion with the Basic Design Study team, the following items were requested by the Fiji side (Annex 2 and 3 refer).

- (1) Installation of Hub earth station suitable to provide the two-way 64 kbit/s data transmission between the USP Headquarters in Fiji, its other Campuses and each of the University Centers in member countries (entities)
- (2) Installation of a Remote earth station at University Center located in Lautoka, Fiji
- (3) Transmission capabilities of three video channels from Hub earth station in Fiji and one channel each from Mini-hub earth stations in Samoa and Vanuatu for the reception at all stations in the USPNet. A maximum of three simultaneous transmissions should be possible.
- (4) Two simultaneous video conference capabilities between Hub earth station in Fiji and Mini-hub/Remote earth stations sharing the available spectrum.

Items (2) through (4) were not requested at the stage of Preliminary Study on the Project, though they were included in the formal Request for Japan's Grant Aid submitted by the Fiji side after the Preliminary Study. These items were

thoroughly discussed during the visit of the Basic Design Study team and referred for the further study in Japan. The items of the Project will be decided after further study.

Annex 4 refers to the provisional technical solution.

5. Japan's Grant Aid system

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

6. Framework of the Project Implementation in Fiji

- (1) The Ministry of Communication, Works and Energy (hereinafter referred to as "the Ministry") would act as the organization responsible for the facilitation of the Project in. The USP will execute the necessary work as directed by the Ministry.
- (2) The Ministry would be responsible for monitoring the proper and effective use and maintenance of those through coordination with the USP.
- (3) The USP would act as managing and operating body for the equipment purchased under Japan's Grant Aid, while remaining the property of the Fiji side, in accordance with due arrangement and agreement to be set forth between the Ministry and the USP.

7. Schedule of Study

- (1) The consultants will carry out further studies in Fiji and other USP member countris (entities) until October 22, 1997.
- (2) JICA will prepare the draft report in English and dispatch a mission in order to explain its contents around December, 1997.
- (3) In case that the contents of the report is accepted in principle by the Fiji side, JICA will complete the final report and send it to the Fiji side by March, 1998.

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8. Collaboration in the Project

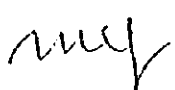


The corresponding earth stations to the Hub earth station in Suva, Fiji, are to be implemented by the following schemes:

(1) Grant Assistance for the Grassroots Projects is to be applied for the Mini-hub earth station in Samoa and the Remote earth stations in Tonga, Marshall Islands, Solomon Islands and Tuvalu.

(2) New Zealand is to provide the aid for the Remote earth stations in Cook Islands, Niue, Tokelau and Nauru.

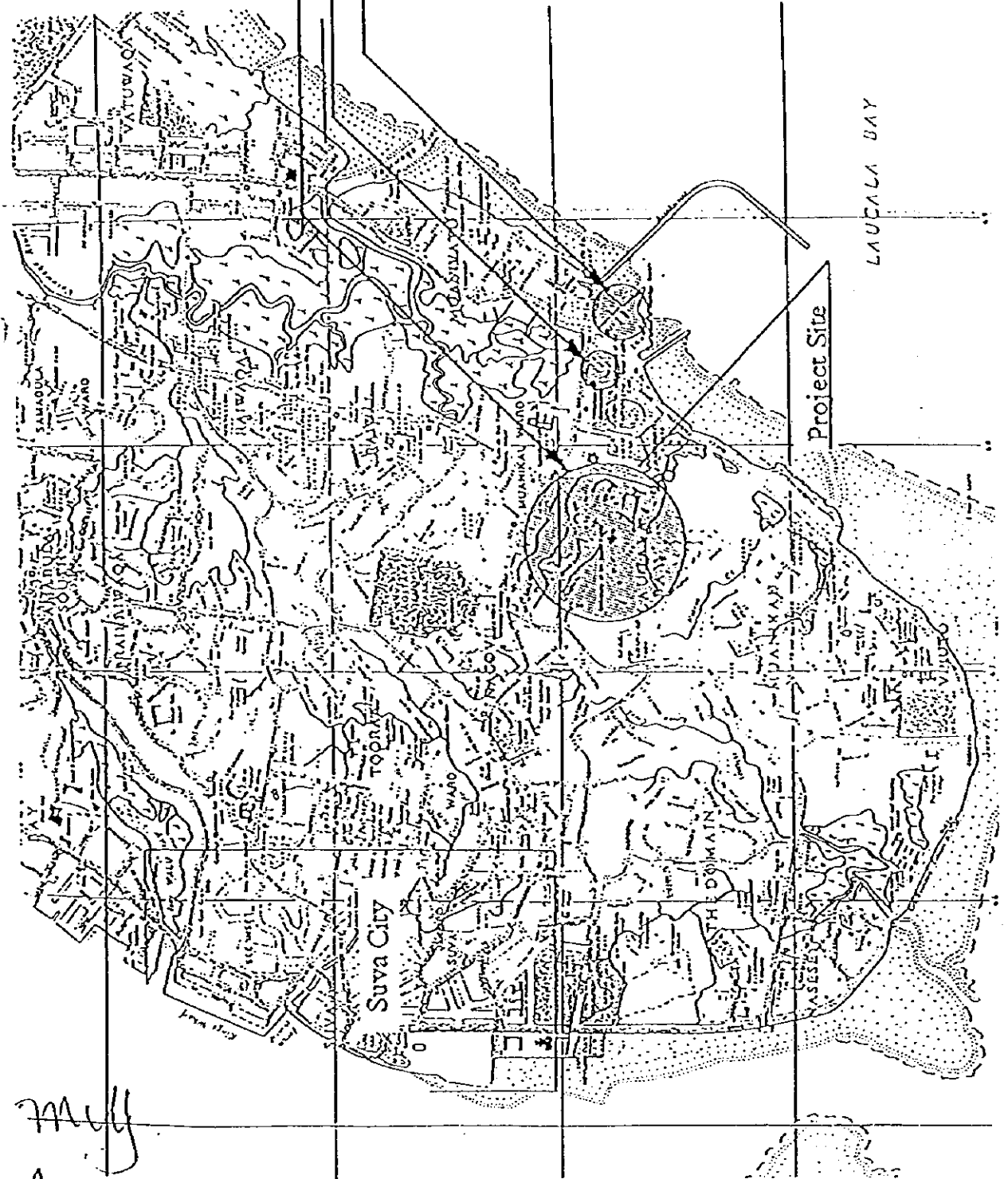
(3) Australia is to provide the aid for the Mini-hub earth station in Vanuatu and the Remote earth station in Kiribati.

The USP Center in each country (entity) will be responsible for the earth stations listed above, while the USP Headquarters will be responsible for the management of the Project. Demarcation of the Project among Japan, New Zealand and Australia is shown in Annex 6.

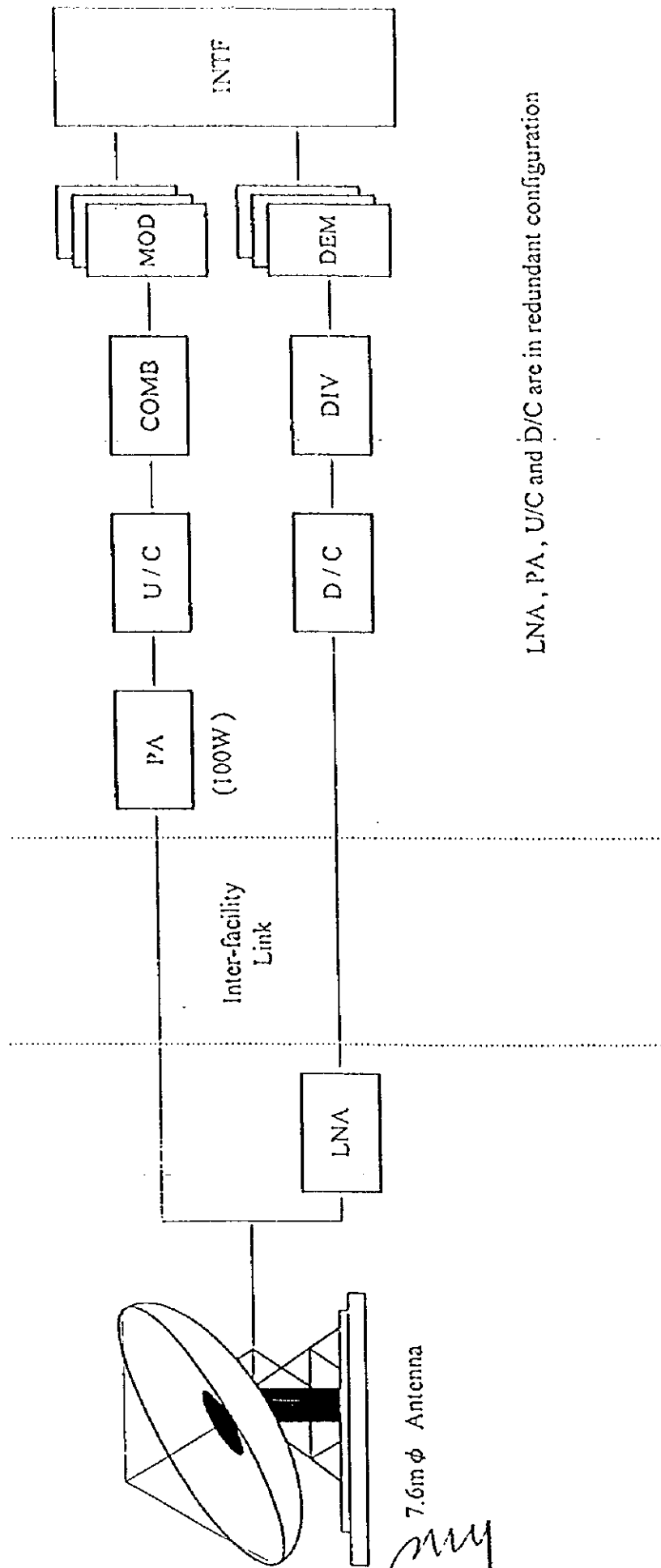




ANNEX 1

The University of
the South Pacific
Upper Campus
Middle Campus
Lower Campus



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ANNEX 2

Figure 1 Configuration of HUB Earth Stations in USPNET

USPNet - Current USP Expectations

a) Video

Modern distance education programmes are increasingly video based. The University now considers that it must have the capability to move into this area, sooner rather than later. The new USPNet should provide this capability. Video programmes should be able to be transmitted from any of the three campuses, and received at all locations.

b) Data

The University is developing the information systems on its Laucala Campus, providing an essential infrastructure for all aspects of its operations. If it is to realise the goal of fully integrating its Centres and other Campuses into the University, they must become part of this infrastructure. This can only be done if they are fully connected to a University-wide data network. To provide this full functionality, a permanent, dedicated data connection is required from Suva to each destination.

It is important to recognise that this requirement is independent of the total volume of data transferred between any two locations. The functionality depends on the dedicated link.

c) Fiji Centre

The University is developing the services it offers through its Centre in Lautoka, Fiji. This should therefore be included in the design as a twelfth remote destination.

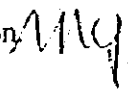
d) Telephone and Fax

The University now wishes to specifically include the unrestricted use of the proposed network for internal telephone and fax. To facilitate this, it proposes to connect the system to the individual PBXs at each location.

SUMMARY

The University's requirements can now be restated as follows.

- Full duplex operation for voice and data - both independent and simultaneous, *with a permanent dedicated digital link for voice and data to each location.*
- *Video transmission from the three campuses, with reception at all destinations.*
- 24 hour availability in support of all the University's functions.
- Adequate security.
- A topology which will allow Centres to communicate with each other *via voice and data*, as well as with the Campuses.
- Full University control over use and scheduling.
- The possibility of connecting to other networks in the region.


Summary of Provisional Technical Design

The proposed provisional technical solution includes the;

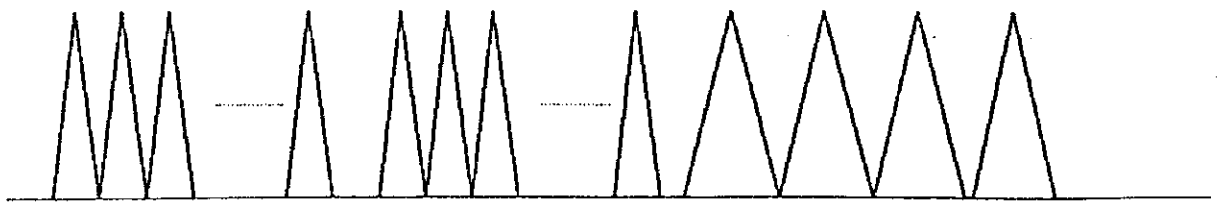
- Provision for 64 kbps two-way data between the Hub earth station and all Mini-hub/Remote earth stations.
- Provision for a maximum of four simultaneous 128 kbps video transmissions for lectures from the Hub earth station and Mini-hub earth stations, or a maximum of two simultaneous video conferences between the Hub earth station and Mini-hub/Remote earth stations. (A maximum of one transmission from a Mini-hub/Remote earth station)

The provisional technical solution will be compatible with the following earth station equipment;

- 7.6 m antenna at the Hub earth station
- 4.5 m antenna at the Mini-hub earth stations and the Remote earth stations

The following channeling is proposed;

Hub earth station to Mini-hub/Remote Earth stations	Mini-hub/Remote Earth stations to Hub earth station	Channels for scheduled use by Hub/Mini- hub/Remote earth stations
64 kbps x 12	64 kbps x 12	128 kbps x 4



NOTE: The above is provisional only and is subject to

- 1) approval of the Government of Japan and
- 2) the Draft Basic Design report

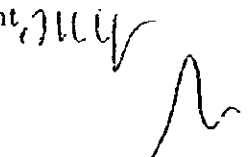
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Undertakings to be taken by the Fiji side
in case Japan's Grant Aid is executed

1. To secure the land of the site for the Project
2. To undertake incidental outdoor works such as fencing, gates and exterior lighting in and around the site
3. To provide following facilities for implementing the Project
 - 1) Electricity distributing line to the site
 - 2) Air-conditioner of the equipment room
4. To secure floor space, power supplies, grounding, space for equipment in the equipment room and a route for wave guides between antenna and equipment room
5. To install and connect cables of the USP terminal equipment to the interface of the Project equipment
6. To take necessary measures for radio coordination procedures depicted in ITU Radio Regulations, for an application for use of INTELSAT space segment and for frequency registration for ITU Radio Bureau
7. To bear commissions to the Japanese foreign exchange bank for the banking services based upon Banking Arrangement
8. To exempt taxes and to take necessary measures for customs clearance of the materials and equipment brought in for the Project
9. To accord Japanese National whose services may be required in connection with the supply of products and the services under the verified contract such facilities as may be necessary for their entry into the Republic of Fiji and stay therein for the performance of their work
10. To maintain and use properly and effectively the facilities constructed and equipment purchased under the Grant
11. To bear all the expenses other than those to be borne by the Grant



Demarcation of the USPNET Project

Date line

Marshall Is.

Kiribati

Nauru

Equator

Tuvalu Is.

Tokelau Is.

Solomon Is.

Samoa

Fiji

Vanuatu




Tonga

Niue

Cook Is.

ANNEX 6

Responsible Donor

-  : New Zealand
-  : Australia
-  : Japan

New Zealand

Australia

Memorandum
On
The Basic Design Study on the Project for
Upgrading of USPNet Communications System
(Consultation on Draft Report for the Independent State of Samoa)

For
Ministry of Foreign Affairs
The Independent State of Samoa

In October 1997, the Japan International Cooperation Agency (JICA) dispatched the Basic Design Study Team on the Project for Upgrading USPNet Communications System (hereinafter referred to as "the Project") to Fiji, and also the Basic Design Study Team conducted field survey in Samoa as a part of the study.

Through discussions, field survey, and technical examination of the results in Japan, JICA has prepared the draft Basic Design report of the study including the Basic Design for the USP Centre in Samoa.

In order to explain and consult the Government of the Independent State of Samoa, on the components of the draft report, JICA sent a study team, which is headed by Mr. Masao Yoshida, Development Specialist of JICA, and is scheduled to stay in Samoa from 22nd to 26th February, 1998. The study team explained and confirmed the main items described on the attached sheets.

Apia, 25th February, 1998



Masao Yoshida
Leader
Basic Design Study Team
(Consultation on Draft Report)
Japan International Cooperation Agency

cc: Treasury Department
Ministry of Education
Ministry of Telecommunications
The USP Alafua Campus
The USP Headquarters in Fiji

ATTACHMENT

1. Components of the Draft Basic Design Report

The Ministry of Foreign Affairs has been explained the components of the draft Basic Design report for the Project sited in Samoa, which is installation of mini-hub station in USP Alafua Campus, by the team.

2. Responsible and Executing Organization

The study team confirmed that, if the Project is implemented by the request of Government of Samoa (GOS), the responsible and executing organizations, and its role would be as follows.

(1) The responsible organization: Treasury Department

The executing organization: The University of the South Pacific
(USP Alafua Campus)

(2) The Treasury Department would act as the organization responsible for the facilitation of the Project in Samoa. USP Alafua Campus will execute the necessary works as directed by the Treasury Department.

(3) The Treasury Department would be responsible for monitoring the proper and effective use and maintenance of those through coordination with USP Alafua Campus.

(4) USP Alafua Campus would act as managing and operating body for the equipment purchased under Japan's Grant Aid for General Projects, while the equipment is remaining the property of Samoan Government, in accordance with due arrangement and agreement to be set forth between the Treasury Department and USP Alafua Campus.

3. Contents of the Items of the Project

The study team has explained the items those will be procured for the Project in Samoa and its location plan attached as Annex-1. However, the items may be modified as a result of the following consultation and discussions with USP Headquarters in Fiji.

4. Japan's Grant Aid Programme

The Ministry of Foreign Affairs has understood the system and characteristics of Japan's Grant Aid Programme for General Projects explained in Annex-2 by the team.

5. Necessary Measures to be taken by the Samoan Side

The study team explained that once the GOS requested the Grant Aid for General Projects to the Government of Japan for implementation of the Project in Samoa and it was extended to the Project, Samoan side should take necessary measures described in Annex-3 for the smooth implementation of the Project.

6. Further Schedule of the Study

JICA will complete a final report of the Study in accordance with the confirmed items, and send it to Samoan side by May 1998.

7. Other Relevant Issue

The Ministry of Foreign Affairs strongly requested to Japanese side to confirm that the USPNet Project would not affect any other bilateral projects requested by the Government of Samoa. Japanese side understood their concern and conveyed general understanding in Japan that the USPNet Project would not affect any other bilateral projects requested by the Government of Samoa.

Annex-1 Items to be provided under the Japanese General Grant Aid Project

Equipment list for Mini-Hub Stations in Samoa

Facility	Equipment		Qty	Remarks
Antenna	Antenna Structure		1set	
	Feed Horn		1set	
	Antenna Foundation		1set	
Outdoor Unit	Power Amplifier		1set	
	Low Noise Amplifier		1set	
	Frequency Converter		1set	
	Inter Facility Cable		1set	
Indoor Unit	Modem	64kbps Modem	1	
		128kbps Modem	3	
		Mother Board	1	
		Control Channel Modem	1	
Others	Automatic Voltage Regulator (10KW)		1set	
	Multiplexer		1set	
	Desk Microphone		8	
	Speaker		2	
	Amplifier		1	
	Mixer		1	

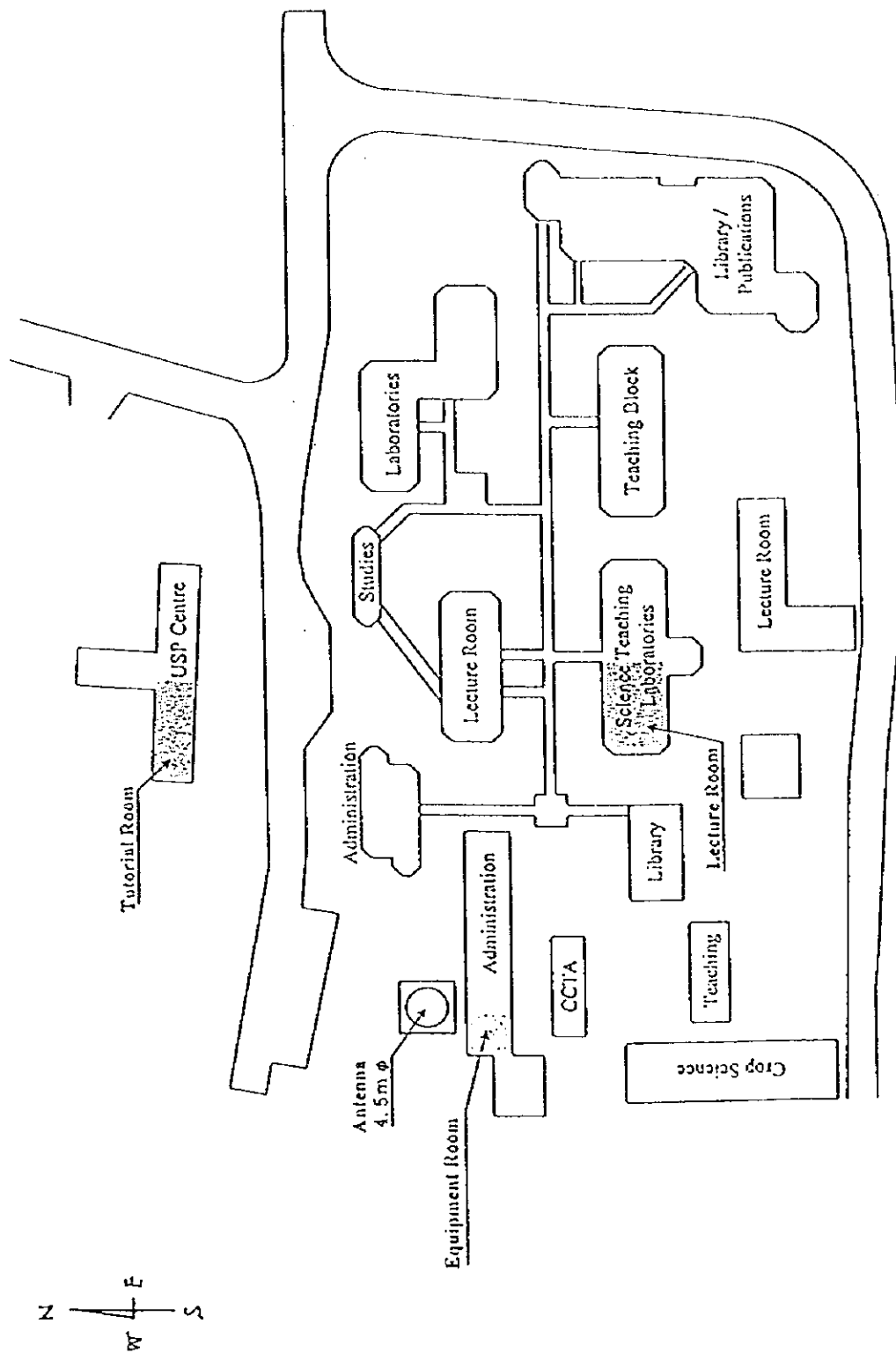


Figure 1-15 Site Layout for USP Samoa Centre

Annex-2

Japan's Grant Aid Scheme

1. Grant Aid Procedures

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 (the 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 (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, 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 (hereafter referred to as "the Study"), conducted by JICA on a requested project (hereafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Japanese Government. The contents of the Study are as follows:

- a) Confirmation of the background, objectives, and benefits of the requested 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 a technical, social and economic point of view.
- c) Confirmation of items agreed on by both parties concerning the basic concept of the Project.
- d) Preparation of a basic design of the Project
- 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 smooth implementation of the Study, JICA uses (a) registered consultant firm(s). JICA select (a) firms(s) based on proposals submitted by interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA. The consulting firm(s) used for the Study is(are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency and also to avoid any undue delay in implementation should the selection process be repeated.

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 Aid" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consultant firm(s) and (a) contractor(s) 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.

- 4) Under the Grant Aid, 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 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 of the Government of the Recipient Country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

- (1) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.
- (2) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.
- (3) To secure buildings prior to the procurement in case the installation of the equipment.
- (4) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.
- (5) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with

respect to the supply of the products and services under the Verified Contracts.

(6) 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.

(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 staff necessary for this operation and maintenance 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 should not be re-exported from the recipient country.

(9) Banking Arrangements (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 an authorized foreign exchange 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 issued by the Government of the recipient country or its designated authority.

Annex-3 Necessary Measures to be taken by the Samoan Side

Following necessary measures should be taken by the Samoan Side on condition that the GOS request the Grant Aid Programme for General Projects by the Government of Japan for implementation of the Project in Samoa and it is extended to the Project.

1. To secure the land of the site for the Project.
2. To undertake incidental outdoor works such as fencing, gates and exterior lighting in and around the site.
3. To provide the following facilities for implementing the Project.
 - 1) Electricity distributing line to the site
 - 2) Air-conditioner of the equipment room
4. To secure floor space, power supplies, grounding, space for the equipment in the equipment room and a route for wave guides and/or cables between antenna and equipment room.
5. To install and connect cables of the USP terminal equipment to the interface of the Project equipment.
6. To take necessary measures for radio coordination procedures depicted in ITU Radio Regulations, for an application for use of INTELSAT space segment and for frequency registration for ITU Radio Bureau.
7. To bear commissions to the Japanese foreign exchange bank for its banking services based upon the Banking Arrangement, namely the advising commission of the "Authorization to Pay" and payment commission.
8. To ensure prompt unloading, tax exemption, customs clearance at the port of disembarkation and prompt internal transportation therein of the materials and equipment for the Project purchased under the verified contracts.
9. To exempt Japanese juridical and physical nationals engaged in the Project from customs duties, internal taxes and other fiscal levies which may be imposed in Samoa with respect to the supply of the products and services under the verified contracts.
10. 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 Samoa and stay therein for the performance of their work in accordance with the relevant laws and regulations of the Independent State of Samoa.
11. To provide necessary permissions, licenses and other authorizations for implementing the Project, if necessary.
12. To maintain and use properly and effectively the facilities constructed and the equipment provided under the Project in responsibility of executing organization.
13. To bear all the expenses other than those to be borne by the Japan's Grant Aid within the scope of the Project.

Minutes of Discussions
The Basic Design Study on the Project for
Upgrading of USPNet Communications System of
the University of the South Pacific
in the Republic of Fiji
(Consultation on Draft Report)

In September 1997, the Japan International Cooperation Agency (JICA) dispatched the Basic Design Study Team on the Project for Upgrading of the Communications System of the University of the South Pacific (hereinafter referred to as "the Project") to Fiji, and through discussions, field survey, and technical examination of the results in Japan, has prepared the draft Basic Design report of the study.

In order to explain and consult the Ministry of Foreign Affairs, the Government of the Republic of Fiji, and the University of the South Pacific on the components of the draft report, JICA sent a study team, which is headed by Mr. Masao Yoshida, and is scheduled to stay in Fiji from 27th February to 5th March, 1998.

As a result of discussions, both parties confirmed the main items described on the attached sheets.

Suva, 4th March, 1998

 Mr. Masao Yoshida Leader Basic Design Study Team (Consultation on Draft Report) JICA	 Mr. Isireli Koyamaibole Acting Deputy Permanent Secretary Ministry of Foreign Affairs and External Trades	 Professor Rajesh Chandra Acting Vice-Chancellor The University of the South Pacific
	 Mr. Josua Turaganivalu Director, Telecommunications, Ministry of Communications, Works and Energy	

ATTACHMENT

1. Components of the Draft Basic Design Report

The Ministry of Foreign Affairs and the University of the South Pacific have agreed and accepted the components of the draft Basic Design report proposed by the team.

2. Responsible and Executing Organization

(1) Responsible organization: Ministry of Communication, Works and Energy
(MCWE)

Executing organization: The University of the South Pacific

(2) The MCWE would act as the organization responsible for the facilitation of the Project in Fiji. USP will execute the necessary works as directed by the MCWE.

(3) The MCWE would be responsible for monitoring the proper and effective use and maintenance of the equipment provided through coordination with USP.

(4) USP would act as managing and operating body for the equipment purchased under Japan's Grant Aid for General Projects, while the equipment is remaining the property of Fijian Government, in accordance with due arrangement and agreement to be set forth between the MCWE and USP.

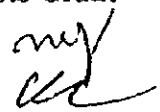
3. Contents of the Items of the Project

Both sides have confirmed the items which will be procured under the Japanese Grant Aid for General Projects and its location plan attached as Annex-1.

4. The Role of Consultant

(1) The consultant appointed under the Japanese Grant Aid for General Projects (the Consultant) will coordinate the implementation schedule not only for the project in Fiji but also all of the sites of USPNet going to be settled by the end of 1999.

(2) The consultant will provide the necessary documents for the Grassroots Grant Aid by Japan, and monitor the implementation of each site applying it.



Annex-1 Items to be provided under the Japanese General Grant Aid Project

Equipment List for Hub Earth Station in Fiji

Facility	Equipment		Qty	Remarks
Antenna	Antenna Structure		1set	
	Feed	Feed Horn	1set	
		Wave Guide for Feeder	1set	
	Drive and Control	Tracking Receiver	1set	
		Antenna Control Unit	1set	
		Antenna Drive Unit	1set	
	Antenna Foundation		1set	
Radio Equipment	Radio Frequency	Transmit Power Amplifier	1set	
		Low Noise Amplifier	1set	
		Up/Down Converter	1set	
	Modem	64kbps Modem	11	
		128kbps Modem	3	
		Mother Board	4	
		Control Channel Modem	2	
	Rack, Combiner/Divider		1set	
Circuit Management System	Circuit Management Unit		1set	
	Circuit Control Unit		1set	
Others	Automatic Voltage Regulator (20KW)		1set	
	Multiplexer		1set	

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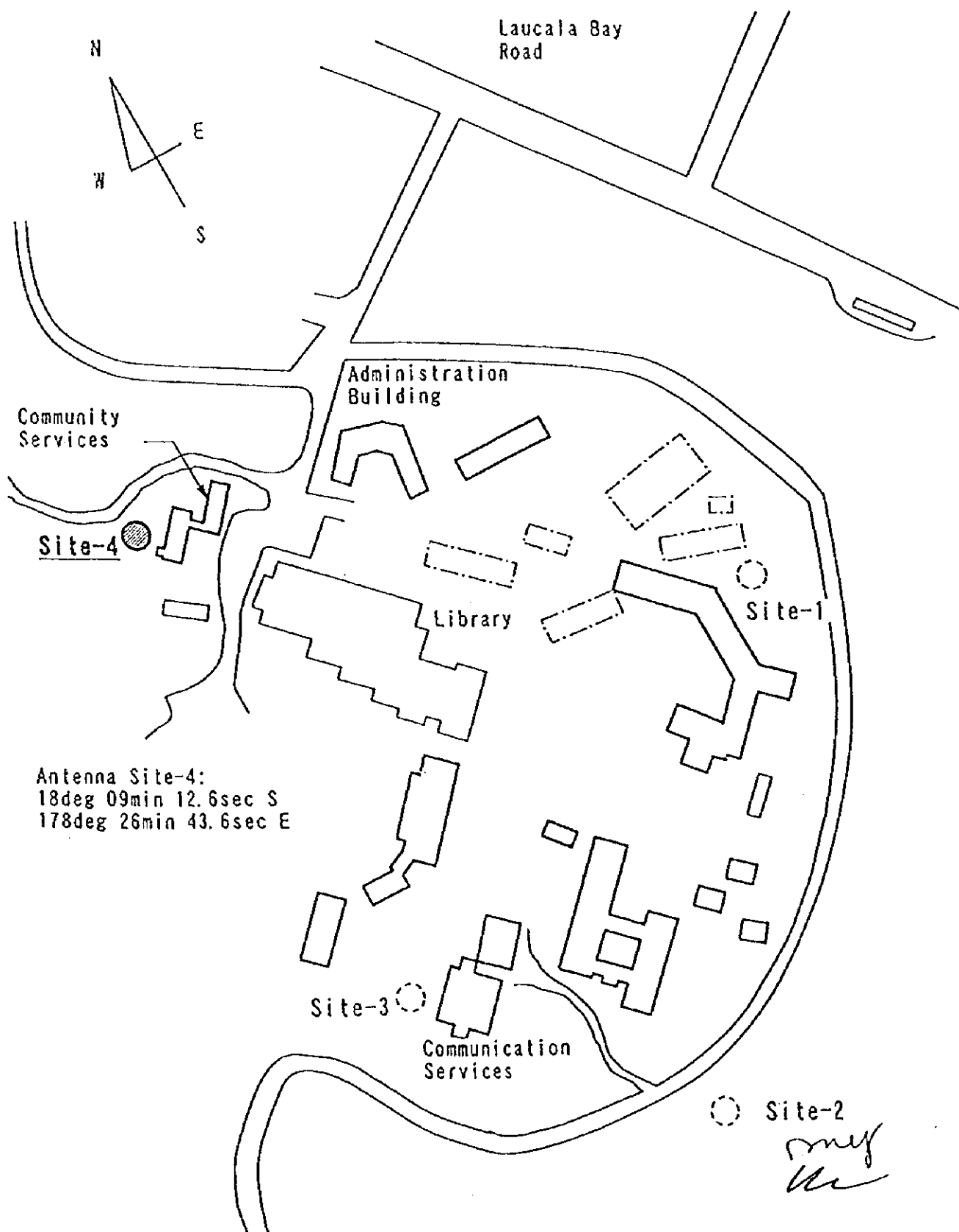


Figure 1-4 Site Layout for USP Headquarters in Fiji

Annex-2 Japan's Grant Aid Scheme



Japan's Grant Aid Scheme

1. Grant Aid Procedures

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 (the 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 (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, 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.

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2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consultant firm(s). JICA select (a) firms(s) based on proposals submitted by interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA. The consulting firm(s) used for the Study is(are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency and also to avoid any undue delay in implementation should the selection process be repeated.

3. Japan's Grant Aid Scheme

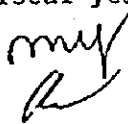
1) What is Grant Aid?

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 Aid" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consultant firm(s) and (a) contractor(s) 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.



respect to the supply of the products and services under the Verified Contracts.

(6) 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.

(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 staff necessary for this operation and maintenance 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 should not be re-exported from the recipient country.

(9) Banking Arrangements (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 an authorized foreign exchange 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 issued by the Government of the recipient country or its designated authority.

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Cost Estimation Borne by the Recipient Country

(1) Cost Estimation Borne by the Fiji Side

- | | | |
|----|---------------------------------------|------------|
| 1) | Building Expansion for Equipment Room | F\$36,000- |
| 2) | Air Conditioner for Equipment Room | F\$15,000- |
| 3) | Power and Communications Cables | |

Installation

 F\$5,000-

Total

F\$56,000-

Building expansion cost assumes 6m by 6m expansion
including 4m by 6m equipment room.

(2) Cost Estimation Borne by the Samoa Side

- | | | |
|----|------------------------------------|------------|
| 1) | Air Conditioner for Equipment Room | F\$15,000- |
| 4) | Power and Communications Cables | |

Installation

 F\$5,000-

Total

F\$20,000-

To be provided.

**Outline Specification of Project Equipment
for
The Project for Upgrade of USPNet Communications System**

Chapter 1 Outline

1.1 Purpose

This equipment is the satellite communication equipment to be installed at USP Headquarters in Suva, Fiji and eleven USP sites in its member countries and territories. The equipment will be used for audio tutorials, voice/facsimile/data communications between USP Headquarters and other USP sites, and for video lecture transmission from USP campuses and/or video conference between USP Headquarters and other USP sites.

1.2 System Concept

The equipment will make up a private satellite communications network on Global Beam transponder of Intelsat satellite over the Pacific Ocean. Required transponder capacity will be leased from Intelsat to cater for 22 x 64kbps links for data communication and four 128kbps links for video transmission. The network will consists of one Hub earth station, two Mini-Hub earth stations and nine Remote earth stations. Hub earth station will have 11 two-way 64kbps links with Mini-Hub and Remote earth stations. Video transmission from Hub and Mini-Hub earth stations should have enough power for reception at Remote earth stations. On the other hand, Hub earth station should have receiving capability for video transmission from Remote earth stations for video conference. Hub earth station should be capable of transmitting three 128kbps and eleven 64kbps signals simultaneously. All other stations should be capable of transmitting one 128kbps and one 64kbps signals simultaneously. Hub earth station should also be capable to control power and frequency of transmit signals from Mini-Hub and Remote earth stations.

Chapter 2 General Specifications

2.1 Design Life Time

- 2.1.1 Design life time of this equipment should be more than 10 years.**
- 2.1.2 Any parts which needs periodical replacement within 10 years time should be explicitly indicated. The replacement procedures and replacement period should be provided.**
- 2.1.3 Spare parts supply for the equipment should be maintained for at least the period of design life time.**

2.2 Equipment Reliability

Antenna and radio equipment should achieve the availability better than 99.99% for Hub earth station and 99.98% for Mini-Hub and Remote earth stations.

2.3 Anti-Rust Design

All earth station sites are close to the ocean and outdoor equipment should be designed against rust and anti-rust painting should be applied as required.

2.4 Primary Power Voltage

The equipment should work at primary power supply of each earth station site, which is in the range of 100-120V or 200-240V. The equipment should be properly protected against voltage variation of primary power supply.

2.5 Overall Performance

Hub earth station should meet the specification for Intelsat Standard F-2 earth station and Mini-Hub and remote earth stations should meet the specification for Intelsat Standard F-1 earth station. All earth station should pass the performance verification tests specified in Intelsat Satellite System Operations Guide.

Chapter 3 Antenna

3.1 Antenna for Hub Earth Station

3.1.1 Configuration

The antenna would consist of antenna structure, antenna feed, drive and control, and antenna foundation. Antenna structure includes main reflector, sub reflector, back-up structure and antenna pedestal. Antenna feed includes feed horn for transmitting and receiving radio waves, and wave guides for connection to radio equipment. Drive and control includes drive mechanism for pointing the antenna towards wanted position and control part for instructing the pointing angle for wanted satellite to the drive mechanism. Control part should have automatic satellite tracking function. Dehydrator should be provided for antenna feed horn and wave guides. Antenna foundation is a reinforced concrete structure for supporting antenna pedestal.

3.1.2 Mechanical Specification

- (1) Antenna should have pointing angle range of ± 60 degrees in Aimuth centered at satellite direction and 0-90 degrees in Elevation. If the antenna has other mount axis than Azimuth-Elevation mount, pointing angle range equivalent to Azimuth-Elevation mount antenna should be provided.
- (2) Antenna mount mechanism should be suitable for operation towards satellite with approximately 70 degrees of elevation angle.
- (3) Antenna should endure the wind of 70m/s and should not result in permanent deformation while fixed at approximately 70 degrees elevation angle under 70m/s wind.

3.1.3 Electrical Specification

- (1) Operational frequency range should be
5850-6425 MHz for transmission and
3625-4200 MHz for reception.

- (2) Antenna gain should be better than
 $51.4 + 20 \log (f/6)$ [dB] and
 $48.5 + 20 \log (f/4)$ [dB].
 Where, f is frequency in GHz.
- (3) Antenna noise temperature should be less than 30 K at 70 degrees elevation when measured at antenna feed port.
- (4) Antenna should meet the sidelobe mask specified in IESS-204 and CCIR Rec. 580.
- (5) Antenna should be capable of orthogonal polarization operation.
- (6) Antenna voltage axial ratio should be less than 1.06.
- (7) VSWR should be less than 1.2 for both transmission and reception.
- (8) Transmit port to receive port isolation should be more than 75 dB.

3.1.4 Drive and Control Specification

- (1) Automatic tracking capability for Intelsat satellite should be provided.
- (2) Drive speed should be sufficient for tracking Intelsat satellite at approximately 70 degrees of elevation angle.
- (3) Drive and control mechanism should be able to fix the antenna at any pointing angle.
- (4) Drive and control mechanism should provide manual pointing angle control from equipment room.
- (5) Drive mechanism should be provided with manual handle for hand crank control of pointing angle.

3.1.5 Others

- (1) Dehydrator should have sufficient capacity for keeping antenna feed horn and wave guides dry.
- (2) Antenna structure should be provided with a lightning rod with proper grounding.

3.2 Antenna for Mini-Hub or Remote Earth Station

3.2.1 Configuration

The antenna would consist of antenna structure, antenna feed and antenna foundation. Antenna structure includes main reflector, sub reflector, back-up structure, antenna pedestal and gear mechanism for manual hand crank control of antenna pointing angle. Antenna feed includes feed horn for transmitting and receiving radio waves, and wave guide or cable for connection to radio equipment. Dehydrator should be provided for antenna feed horn and wave guides. Antenna foundation is a reinforced concrete structure for supporting antenna pedestal.

3.2.2 Mechanical Specification

- (1) Antenna should be pointed towards satellite and fixed semi-permanently. Antenna pointing angle for wanted satellite is to be provided.
- (2) Manual drive mechanism should be provided for easy re-pointing of antenna.
- (3) Antenna pointing angle range should be more than ± 10 degrees in both Azimuth and Elevation axis centered at direction of wanted satellite. If the antenna has other mount axis than Azimuth-Elevation mount, pointing angle range equivalent to Azimuth-Elevation mount antenna should be provided.
- (4) Antenna should endure the wind of 55m/s and should not result in permanent deformation at 55m/s wind.

Antenna for Mini-Hub earth station in Samoa should endure the wind of 70m/s and should not result in permanent deformation at 70m/s wind.

3.2.3 Electrical Specification

- (1) Operational frequency range should be
5850-6425 MHz for transmission and
3625-4200 MHz for reception.

- (2) Antenna gain should be better than
 $46.6 + 20 \log (f/6)$ [dB] and
 $43.4 + 20 \log (f/4)$ [dB].
 Where, f is frequency in GHz.
- (3) Antenna noise temperature should be less than 30 K at 60 degrees elevation when measured at antenna feed port.
- (4) Antenna should meet the sidelobe mask specified in IESS-204 and CCIR Rec. 580.
- (5) Antenna should be capable of orthogonal polarization operation.
- (6) Antenna voltage axial ratio should be less than 1.06.
- (7) VSWR should be less than 1.25 for both transmission and reception.
- (8) Transmit port to receive port isolation should be more than 75 dB.

3.2.4 Others

- (1) Dehydrator should have sufficient capacity for keeping antenna feed horn and wave guides dry.
- (2) Antenna structure should be provided with a lightning rod with proper grounding.

Chapter 4 Radio Equipment

4.1 Hub Earth Station

4.1.1 Configuration

Radio equipment for Hub earth station would consist of Radio Frequency part, Frequency Conversion part and Modulator/Demodulator part. Radio Frequency part includes Power Amplifier assembly and Low Noise Amplifier assembly. Frequency Conversion part includes Up-Converter assembly and Down-Converter assembly. Modulator/Demodulator part includes 128kbps modulators/demodulators, 64kbps modulators/demodulators and Control channel modulators/demodulators.

4.1.2 Radio Frequency part

4.1.2.1 Power Amplifier assembly

- (1) Rated output power should be more than 100W.
- (2) Operational frequency range should be 5850-6425 MHz.
- (3) Amplifier gain should be more than 70 dB.
- (4) Gain control range should be more than 15 dB.
- (5) Gain/Frequency response should be less than 0.5 dB/40MHz.
- (6) Intermodulation product generated by two equal carriers 6 dB lower than rated output power should be more than 22dB below wanted signal.
- (7) Transmit monitor port should be provided for transmit power monitoring.
- (8) Alarm should be generated in case of anomaly.
- (9) One to one redundancy should be provided for Power Amplifier with switches.

4.1.2.2 Low Noise Amplifier assembly

- (1) Noise temperature should be less than 40K to assure required G/T.
- (2) Operational frequency range should be 3625-4200 MHz.
- (3) Amplifier gain should be more than 60 dB.
- (4) Dynamic range should be more than 60 dB.
- (5) Gain/Frequency response should be less than 0.02 dB/MHz.
- (6) Alarm should be generated in case of anomaly.
- (7) One to one redundancy should be provided for Low Noise Amplifier with switches.

4.1.3 Frequency Converter part

4.1.3.1 Up-Converter

- (1) Input frequency range should be $140 \text{ MHz} \pm 36 \text{ MHz}$.
- (2) Input signal of -7 to -52 dBm should be accepted.
- (3) Output frequency range should be 5850-6425 MHz.

- (4) Output signal level should be in the range of -7 to -52 dBm.
- (5) One to one redundancy should be provided for Up-Converter with switches.

4.1.3.2 Down-Converter

- (1) Input frequency range should be 3625-4200MHz.
- (2) Input signal of -37 to -96 dBm should be accepted.
- (3) Output frequency range should be $140 \text{ MHz} \pm 36 \text{ MHz}$.
- (4) Output signal level should be in the range of 0 to -37 dBm.
- (5) One to one redundancy should be provided for Down-Converter with switches.

4.1.4 Modulator/Demodulator part

- (1) 3 sets of 128kbps modulator/demodulator should be provided.
- (2) 11 sets of 64kbps modulator/demodulator should be provided.
- (3) Control channel modulator/demodulator should be provided.
- (4) Transmit/receive frequency should be $140 \text{ MHz} \pm 36 \text{ MHz}$.
- (5) Transmit signal level should be variable in the range of -20 to 0 dBm by 0.1 dB step.
- (6) Receive signal at $-50 \text{ dBm} + 10 \log (\text{Information rate(kbps)}/64) \pm 10 \text{ dB}$ should be accepted.
- (7) Modulation should be QPSK.
- (8) FEC rate should be selectable between $1/2$ and $3/4$.
- (9) In IF loop back, required E_b/N_0 for 10^{-6} Bit Error Rate should be less than 5.6 dB for $1/2$ FEC or 6.9 dB for $3/4$ FEC.

4.2 Mini-Hub or Remote Earth Station

4.2.1 Configuration

Radio equipment for Mini-Hub or Remote earth station would consist of Out Door Unit (ODU), In Door Unit (IDU) and interconnecting cables between them. ODU includes Power Amplifier, Low Noise Amplifier and Frequency Converters. IDU includes modulator/demodulators.

4.2.2 Out Door Unit

- (1) Rated output power of Power Amplifier for Mini-Hub earth station should be more than 50 W.
- (2) Rated output power of Power Amplifier for Remote earth station should be more than 20 W.
- (3) Noise temperature of Low Noise Amplifier should be less than 60 K.
- (4) Operation frequency range should be 5850-6425 MHz for transmission and 3625-4200 MHz for reception.
- (5) Frequency conversion should be provided in ODU and connection with IDU should be in the intermediate frequency.
- (6) Cable length between ODU and IDU should be extendable for more than 80m.

4.2.3 In Door Unit

- (1) IDU should be able to accommodate maximum of 3 sets of 128kbps modulator/demodulator and one set of 64kbps modulator/demodulator.
- (2) In IF loop back, required E_b/N_0 for 10^{-6} Bit Error Rate should be less than 5.6 dB for 1/2 FEC or 6.9 dB for 3/4 FEC.
- (3) IDU should be provided with Control channel modulator/demodulator.
- (4) IDU should accept and follow power and frequency control signal of modulator/demodulator which would be received through Control channel from Hub earth station.

Chapter 5 Circuit Management Equipment

5.1 Configuration

Circuit Management Equipment would consist of Circuit Management Unit and Circuit Control Unit. This equipment provides management of utilization schedule for 128kbps channels and configuration control of modulators/demodulators at Mini-Hub and Remote earth stations.

5.2 Circuit Management Unit

- (1) The unit should accept the utilization schedule input from associated keyboard or data interface and put them into Utilization Schedule Management Table on first come first served basis.
- (2) If there is no room to accommodate utilization request on the Utilization Schedule Management Table, the Unit should respond with Reject Request message to the origin of request.
- (3) Access to the Utilization Schedule Management Table should be protected by suitable password system.
- (4) Request for one way transmission should only be accepted for Hub or Mini-Hub earth station.
- (5) Request for two way transmission should be accepted on condition that Hub earth station is involved and there is a room on the Utilization Schedule Management Table.
- (6) Data on the Utilization Schedule Management Table should be maintained even if primary power fails.
- (7) The Unit should be able to send out Mini-Hub or Remote earth station set-up command according to the Utilization Schedule Management Table, to the Circuit Control Unit.
- (8) Control command should include the capability to control the transmit power, transmit/receive frequency and bit rate of modulator/demodulator at Mini-Hub or Remote earth station.
- (9) Control command should include the polling for equipment status of Mini-Hub or Remote earth station.

5.3 Circuit Control Unit

- (1) The Unit should accept the control command from the Circuit Management Unit, accordingly generate the control signal for Mini-Hub or remote earth station and transmit it through Control channel modulator.
- (2) The Unit should receive the status signal including command acknowledge from Mini-Hub or Remote earth station and notify it to the Circuit Management Unit.

Chapter 6 Other Equipment

6.1 Multiplexer

Multiplexer should be capable of multiplexing data/voice/facsimile signals into one 64kbps data stream and vice versa.

6.2 Automatic Voltage Regulator

Automatic Voltage Regulator should adjust the fluctuation of input voltage and stabilize the output voltage. Hub earth station would require the capacity of 20 kVA and Mini-Hub earth station would require 10 kVA.

6.3 Speaker

Rated power of speaker should be more than 30W for generating enough audio sound for tutorials.

6.4 Amplifier for Speakers

Rated output power of amplifier should be sufficient to drive the tutorial speakers without distortion.

6.5 Microphones

Microphones should have good sensitivity and fidelity for picking up voices of students during tutorials.

6.6 Mixer Amplifier for Microphones

Mixer amplifier should be capable of mixing audio signals from maximum of eight microphones for tutorials without distortion.

JICA