

THE REQUIREMENT OF SPARE PART

N	LIST OF SPAREPARTS	
01	ປອກສູບຈັກ	LINER , CYLINDER , SIS
02	ລູກສູບຈັກ	PISTON , SIS
03	ເຫວນລູກສູບ	RING SET, PISTON , STD
04	ວາວອາຍດີ	VALVE , INTAKE , STD
05	ວາວອາຍເສຍ	VALVE , EXH , STD
06	ບຸດຂາວາວອາຍດີ	BUSHING , VALVE GUIDE INTAKE , REPAIR STD
07	ບຸດຂາວາວອາຍເສຍ	BUSHING , VALVE GUIDE , EXH REPAIR STD
08	ຢາງໝວກວາວ	SEAL , VALVE STEM OIL
09	ຊວງຊຸດໃຫຍ່	GASKET OVERH
010	ຊວງຝາສູບ	GASKET , CYL HEAD
11	ໃສ້ກອງນໍ້າມັນເຄື່ອງ	ELEMENT SET , OIL FILTER
12	ໃສ້ກອງນໍ້າມັນກາຊວນ	ELEMENT SET , FUEL FILTER
13	ຈານຄາວ	DISC ASSY CLUTCH
14	ຕີນດີຄາວ	COVER ASSY CLUTCH
15	ຢາງເບກໜ້າ	CUP , WHEEL CYL PISTON FR
16	ຢາງເບກໜ້າ	CUP , WHEEL CYL PISTON RR
17	ຢາງແມ່ປັກເບກ	CUP , CYLINDER
18	ຢາງຄາວນອ້ຍ	CLIP , PISTON
19	ໃສ້ກອງອາກາດ	ELEMENT SUB ASSY , A/ C FILTER
20	ຊາບອີກ STD	BEARING SET , CRANK SHAFT STD
21	ຊາບກ້ານ STD	BEARING SET , CONROD , STD
22	ຊາບກ້ານລຸນ STD	WASHER SET , CRANKSHEFT THRUST , STD
23	ກະບອກຄາວລຸ່ມ	CYLINDER ASSY , CLUTCH RELEASE
24	ລູກປີນຄາວ	BEARING , CLUTCH THROW OUT
25	ແມ່ປັກຄາວ	CYLINDER ASSY , MASTER
26	ຊຸດສອ້ມແມ່ປັກຄາວ	PISTON SUB ASSY , MASTER CYLINDER
27	ປັກແຍກ	PUMP ASSY , FUEL FEER
28	ຟອບປັກແຍກ	COVER , PRIMING PUMP
29	ໃບຟັດ	FAH SUB ASSY , COOLING

30	ປົມ	PUMP ASSY, COOLANT
31	ຊິນປົມ	SEAL SUBASSY, COOLANT PUMP
32	ປົມ	COMPRESSOR ASSY, AIR
33	ຈຸກສູບປົມ	PISTON
34	ແຄວນສູບປົມ	PISTON RING SET
35	ໃດສາກ	ALTERNATOR ASSY
36	ໃດສະຢັດ	STARTER ASSY
37	ທໍ່ນໍ້າເທິງ	HOSE RAD
38	ທໍ່ນໍ້າລຸ່ມ	HOSE RAD
39	ສັ່ນກິດໄສລົງ	SWITCH ASSY, TURN SIGNAL
40	ສະວິກໄສເບກ	SWITCH ASSY
41	ສະວິກໄສຈຸອຍ	SWITCH ASSY, BACK UP LAMP
42	ແມ່ປົດຍກ	CYLINDER, BREAK MAIN
43	ຊິກອັບອກ	SHOCKABSORBER ASSY, FRONT
44	ຊິກອັບອກ	SHOCKABSORBER ASSY, RR
45	ຈຸກບົນລັ່ນນ້ຳນອກ	BEARING, TAPERED ROLLER OUT
46	ຈຸກບົນລັ່ນນ້ຳໃນ	BEARING, TAPERED ROLLER IN
47	ຊິນລັ່ນນ້ຳ	SEAL, OIL
48	ຈຸກບົນລັ່ນນ້ຳນອກ	BEARING, TAPERED ROLLER OUT
49	ຈຸກບົນລັ່ນນ້ຳໃນ	BEARING, TAPERED ROLLER IN
50	ຊິນລັ່ນນ້ຳໃນ	SEAL, OIL IN
51	ຊິນລັ່ນນ້ຳນອກ	SEAL, OIL OUT
52	ຈຸກໝາກແຂນສິ່ງຊ້າຍ	END ASSY, TIE ROD, LH
53	ຈຸກໝາກແຂນສິ່ງຂວາ	END ASSY, TIE ROD, RH
54	ປົມ	PUMP ASSY OIL
55	ກອມແອ	PK COMPASSOR
56	ນອດຕັກ:ກ ຫນ້າ, ຫລັງ	HUBBOLT (FRONT, REAR)
57	ອັກເບກ, ຫນ້າ, ຫລັງ	BRAKE LINING (FRONT, REAR)
58	ກະບອກເບກ ຫນ້າ	HYDRAULIC BRAKE CYLINDER (L, R) FRONT
59	ກະບອກເບກ ຫລັງ	HYDRAULIC BRAKE CYLINDER (L, R) REAR (UP, DOWN) ASSY
60	ອຸດສະລັກຄານ	KNIPIN SET

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51

61	ຊີກອັບໜ້າ	SHOCK ABSORBER (FRONT)
62	ຊີກອັບຫຼັງ	SHOCK ABSORBER (REAR)
63	ໂຕປັດນໍ້າຝົນ	MOTOR WIPER
64	ເຕົ້າໄຮໄຊວັກຄາດ	CLUTCH BOOSTER
65	ເກັບນໍ້າເຄື່ອງ	OIL PRESSURE
66	ເກສວາມຮ້ອນ	WATER TEMPERATUR
67	ປຸ່ມຊີຍາວ	FLASHER
68	ສະວິກປັດນໍ້າຝົນ	SWITCH ASSY WIPER SET
060	ປັກກາຊວນ	PUMP ASSY INJ PUMP
70	ທິວສິດ	NOZZLE AND HOLDER SET

DIRECTOR

HEAD OF TECHNICAL



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KEI

KEI 2010 Aug. 19. 2010

6. References / Collection Data List

6.1 PDM (Draft)

PROJECT DESIGN MATRIX (PDM)

Project Title: Capacity Development of Public Bus Transportation In Vientiane Capital

Period: 2/2012 -1 /2015 (3 years) (11/2011 – 10/2014)

Target Area: Urban Area in Vientiane

Target group: Vientiane Capital State Bus Enterprise (VCSBE), Department of Transport Ministry of Public Works and Transport (DOT /MPWT), Department of Transport Vientiane Capital (DOT/VC)

No.2 12/Aug/2010

Narrative Summary	Objectively Verifiable Indicators	Means of verification	Important Assumptions
<u>Super Goal</u> Environmentally sustainable transport (EST) is realized in Target Area.	- Reduction of air pollution - CO ₂ emission is x% cut	- Air pollution data in Target Area	
<u>Overall goal</u> -Traffic accidents decrease in Target Area. -Traffic congestion in Target Area is mitigated.	- Traffic accident - Travel time saving	- Police report - Bus operation record by GPS - Traffic survey	Other Industries will not increase CO ₂ and air pollution.
<u>Project purpose</u> Efficient public bus service is ensured.	- Number of public bus passengers - Bus service coverage areas and population	- Bus operation report - Record of sold bus tickets - Bus route on map with coverage areas	
<u>Output</u> 1. Proper corporate management is improved by VCSBE.	1.1 Increase of income 1.2 Sound corporate finance management - Financial statement preparation - Expenditure saving 1.3 Capacity of HR 1.4 Increase of new bus units	-financial report -bus operation report	Bus, fuel costs and spare parts prices are reasonably stable.
2. Public bus service is improved responding to bus user requests.	2.1 Transport Committee 2.2 Bus service level - Service standards (Level of Service) - Punctuality - Location of bus stop - Frequency	- Check service standards - Bus operation report - Bus users opinions	
3. Favourable public transport policy and plan is established.	3.1 Public transport policy - Bus fare review - Subsidy review - Tax structure review	- financial report - bus frequency	

Narrative Summary	Objectively Verifiable Indicators	Means of verification	Important Assumptions
<p>3.2 Bus operation plan</p> <ul style="list-style-type: none"> - Schedule review - Route review - Bus stop location review 			
<p><u>Activities</u></p> <p><u>1. Improve corporate management</u></p> <p><u>1.1 Improve financial management</u></p> <p>1-1-1 Prepare financial statements (PL & BS) for over all and PL of each route</p> <p>1-1-2 Prepare medium terms business and investment plan</p> <p>1-1-3 Improve ticketing and fare collection system with MPWT (ex. Introduce common ticket, pass, Box, manual counting, Round counting system, etc.)</p> <p>1-1-4 Improve passenger and income recording system</p> <p>1-1-5 Generate income opportunities except bus operation</p> <p>1-1-6 Take attractive measures for bus potential users (ex. advertisement for promoting public bus, route maps)</p> <p>1-1-7 Conduct trial of shuttle bus services for Dongdok campus of University of Laos</p> <p><u>1-2. Improve competence of human resource</u></p> <p>1-2-1 Improve human resource capacity for management & operation including account, planning, operation, maintenance & training</p> <p>1-2-2 Improve regulations of daily bus operation</p> <p><u>1-3 Improve equipment O&M and relevant facility</u></p> <p>1-1 Install bus operation control tools and measures by GPS etc</p> <p>1-2 Improve each bus operation and maintenance recording system by computer for management and planning</p> <p>1-3 Improve central bus station and bus stop facilities, if any</p> <p><u>2. Improve bus services</u></p> <p>2-1 Conduct base line survey of bus service</p> <p>2-2 Establish transport committee for effective bus use</p> <p>2-3 Take improvement measures for bus service (ex. Standards for public bus service, Operation and route improvement)</p> <p>2-4 Plan and review bus routes and bus stop locations responding to community demand.</p> <p>2-5 Improve covering Areas for Bus service (ex. Service route coverage ratio. Actual/schedule)</p> <p><u>3. Improve public bus policy and plans</u></p> <p>3-1 Review and prepare proper fare structure</p> <p>3-2 Review subsidy policy for public bus transport</p> <p>3.3 Review tax structures for public bus transport industries</p> <p>3-4 Coordinate other public transport modes of paratransits (Tuktuk, Jambo, Sonteo)</p> <p>3-5 Review and conduct proper actions for public bus transport against illegal parking</p> <p>3-6 Coordinate with other donors traffic management taken by other project. (ADB, WB etc)</p>	<p><u>Inputs</u></p> <p><Japan side></p> <p><u>Experts</u></p> <ul style="list-style-type: none"> -public transport -corporate management -route and operation -bus service -mechanics -transport and traffic plan <p><u>Equipment and Facility</u></p> <ul style="list-style-type: none"> -GPS for bus operating and maintenance recording system - Computer set - Bus station facilities <p><Lao side></p> <ul style="list-style-type: none"> -Counterparts - Stock yard - Work place 	<p>Precondition</p>	

6.2 Collection Data List

No.	Title	From	Original/Copy	Source	Publish Year
1	National Socio-Economic Development Plan (2006-2010)	Book	Copy (part)	Committee for Planning and Investment	October 2006
2	Statistical Year Book 2009	Book	Copy	Ministry of Planning and Investment	June 2010
3	Statistical Year Book 2008	Book	Copy	Ministry of Planning and Investment	June 2009
4	Statistical Year Book 2007	Book	Copy	Ministry of Planning and Investment	June 2008
5	The Comprehensive Study on Logistics System in Lao PDR Interim Report	Book	Copy	Japan International Cooperation Agency	January 2010
6	Preparing the Implementation of Asian City Transport – Promoting Sustainable Urban Transport in Asia Project	Book	Copy	Asian Development Bank	January 2009
7	Interim Report, Vientiane Sustainable Urban Transport Project	Book	Copy	Asian Development Bank	November 2010