

Baseline Survey
for
Supporting Electric Power Sector
in Republic of Iraq

Final Report

July 2004

 **NIPPON KOEI CO.,LTD.**

in cooperation with

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Cartographic Section

Location Map of the Study Area

BASELINE SURVEY
FOR SUPPORTING ELECTRIC POWER SECTOR
IN REPUBLIC OF IRAQ

FINAL REPORT

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Abbreviations and Acronyms

Organizations

CARE	Cooperative for Assistance and Relief Everywhere
CBI	Central Bank of Iraq
CCITT	Community College for Innovative Technology Transfer
CDO	Civil Defense Organization
CF	Coalition Force
CoE	Commission of Electricity, Iraq
CPA	Coalition Provisional Authority
CSO	Civil Society Organization
DFI	Development Fund for Iraq
DFID	Department for International Development, UK
DPA	Department of Political Affairs, UN
DPKO	Department of Peace Keeping Operations, UN
DPI	Department of Public Information, UN
DSRCG	Deputy Special Representative of the Secretary General, UN
EC	European Commission
EIIP	Employment Intensive Investment Programme
ELSG	Electricity Sectoral Group, UNDP/UNDESA/UNOHCI
ELSWG	Electricity Sector Working Group, UN
ENRP	Electricity Network Rehabilitation Programme, UNDP
EOJ	Embassy of Japan
ESCWA	Economic and Social Commission for Western Asia, UN
EU	European Union
FAO	Food and Agricultural Organization of the United Nations
GoI	Government of Iraq
GoJ	Government of Japan
HIC	Humanitarian Information Center for Iraq

ICRC	International Committee of the Red Cross and Red Crescent
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
ILO	International Labour Organization
IMAC	Iraq Mine Action Center
IMF	International Monetary Fund
IOM	International Organization for Migration
IRFFI	International Reconstruction Fund Facility for Iraq
ISO	International Organization for Standardization
ITPC	Iraqi Telecommunication and Post Company
ITU	International Telecommunications Union
JBIC	Japan Bank of International Cooperation
JICA	Japan International Cooperation Agency
LEA	Local Electricity Authority
MFI	Microfinance Institution
MOE	Ministry of Environment, Iraq
MOE	Ministry of Education, Iraq
MoE/ME	Ministry of Electricity, Iraq
MOLSA	Ministry of Labour and Social Affairs, Iraq
MOPDC	Ministry of Planning and Development Cooperation, Iraq
MOTC	Ministry of Transport and Communications (former), Iraq
NCC	National Control Center
NDC	National Dispatching Center
NEPCO	National Electric Power Co., Jordan
NGO	Non-Governmental Organization
NIMCJC	National Inter-Ministerial Committee on Job Creation
NMAA	National Mine Action Authority
NPA	Norwegian People's Aid
NRCC	Northern Region Control Center

OHCHR	Office of the United Nations High Commissioner for Human Rights
OIP	Office of Iraq Programme
ORHA	Office for Reconstruction and Humanitarian Assistance
PMO	Program Management Office, Iraq
RCC	Regional Control Center
SCRB	State Commission for Roads and Bridges
SDMO	Solomon National Disaster Management Office
SG	Secretary General of the United Nations
SGI	Steering Group on Iraq
SOE	State-Owned Enterprise
SRCC	Southern Region Control Center
SRSO	Special Representative of the Secretary General, UN
UN	United Nations
UNAMI	United Nations Assistance Mission for Iraq
UNCT	United Nations Country Team, Iraq
UNDAF	United Nations Development Assistance Framework
UNDG	United Nations Development Group
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNDESA	United Nations Department for Economic and Social Affairs
UNESCO	United Nations Education, Science and Culture Organization
UN HABITAT	United Nations Human Settlements Programme
UNHAS	United Nations Humanitarian Air Service
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNJLC	United Nations Joint Logistics Center
UNMAS	United Nations Mine Action Service
UNOCHI	United Nations Office of the Humanitarian Coordinator for Iraq

UNODC	United Nations Office for Drugs and Crime
UNOIP	United Nations Office for the Iraqi Programme
UNOPS	United Nations Office for Project Services
UNSC	United Nations Security Council
USACE	US Army Corps of Engineers
USAID	United States Agency for International Development
TFRIE	Task Force for Reconstruction of Iraq Electricity
TFRIO	Task Force for Reconstruction of Iraq Oil
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization
WTO	World Trade Organization

Technical, Other Terms & Units

AAAC	All Aluminum Alloy Conductor
AAC	Actual Available Capacity
ACSR	Aluminum Conductor Steel Reinforcement
AET	Acoustic Emission Test
Bbbl	Billion Barrel
BM ³	Billion Cubic Meter
BPD	Barrels per Day
BPSD	Barrels per Stream Day
BS	British Standard
Btu	British Thermal Unit
C and I	Control and Instrumentation
CB	Circuit Breaker
CB	Capacity Building
CC	Combined Circle
CC	Combustion Chamber

CCA	Common Country Assessment, UN
CCGT	Combined Circle Gas Turbine
CDM	Clean Development Mechanism
CGDM	Crystal Grain Deform Method
CO	Crude Oil
Comm. No.	Commodity Number
DU	Depleted Uranium
DPS	Diesel Power Station
EHRB	Exhaust Heat Recovery Boiler
EIA	Environmental Impact Assessment
EM	Etching Method
ENS	Energy not Served
EO	Explosive Ordnance
EPC	Engineering, Procurement and Construction
EPM	Electrical Polarization Method
ET	Eddy Current Testing
(F)	Forecast
FDI	Foreign Direct Investment
FO	Fuel Oil
FY	Fiscal Year
GDP	Gross Domestic Product
GIS	Gas Insulated Switchgear
GIS	Geographical Information System
GO	Gas Oil
GRL	Goods Review List
GT	Gas Turbine
GTS	Global Telecommunication System
GWh	Gigawatt Hour
HMM	Hardness Measurement Method

HPS	Hydropower Station
HRSG	Heat Recovery Steam Generators
Hz	Hertz
ICT	Insulation Characteristics Test
ICT	Information and Communications Technology
IDP	Internally Displaced Person
IRFFI	International Reconstruction Fund Facility in Iraq
JI	Joint Implementation
kV	Kilovolt
kW	Kilowatt
kWh	Kilowatt Hour
LBAT	Labour-Based Appropriate Technology
LOLP	Loss of Load Probability
Low RPM	Low Rotation per Minute
LPG	Liquid (Liquefied) Petroleum Gas
LSD	Low Speed Diesel
M	Million
M ³	Cubic Meter
MACM	Micro-analyzed Crack Method
MAP	Mine Action Programme
Mbbl	Million Barrel
ML	Million Liter
MM ³	Million Cubic Meter
MSCF/mcf	Million Cubic Feet
MCR	Maximum Continuous Rating
MDG	Millennium Development Goals
MOSS	Minimum Operational Security Standards
MoU	Memorandum of Understanding
MSD	Medium Speed Diesel

MT	Magnetic Particle Testing
MVA	Mega Volt Ampere
MW	Megawatt
MWh	Megawatt Hour
NA	Needs Assessment (UNDP/WB)
NG	Natural Gas
OC	Operation Carrier
OFAF	Oil Forced - Air Forced
OFFP	Oil-for-Food Program
PDS	Public Distribution System
PFDS	Public Food Distribution System
PRS	Poverty Reduction Strategy
PRSP	Poverty Reduction Strategic Plan
PT	Penetrating Testing
RT	Radiographic Examination
RTU	Remote Terminal Unit
SAM	Stress Analysis Method
SCADA	Supervisory Control and Data Acquisition
SCGT	Simple Cycle Gas Turbine
SCR	Security Council Resolution
SF6	Sulphur Hexafluoride Gas
SLD	Single Line Diagram
SME	Small and Medium Sized Enterprise
S/S	Substation
ST	Steam Turbine
ST	Strain Measuring Test
TAL	Transitional Administration Law
T & D	Transmission and Distribution
T/d	Ton per Day

TF	Technical Failure
TM ³	Trillion Cubic Meter
TOC	Table of Contents
TOR	Terms of Reference
TPS	Thermal Power Station
TVE	Technical and Vocational Education
UNFPA	United Nations Population Fund
UNIFEM	United Nations Development Fund for Women
UT	Ultrasonic Examination
UXO	Unexploded Ordinance
VARM	Void Area Ratio Method
VHF	Very High Frequency
VT	Visual Testing

Iraq Governrates and Capital Codes			
No.	Governorate (Till 2004)	Capital	Governorate (Since 2004)
1	Anbar	Ramadi	Ramadi
2	Babylon	Hilla	Hilla
3	Baghdad	Baghdad	Baghdad
4	Basrah	Basrah	Basrah
5	Dahuk	Dahuk	Dahuk
6	Diyala	Ba'aquba	Ba'aquba
7	Erbil	Erbil	Erbil
8	Kerbela	Kerbela	Kerbela
9	Missan	Amara	Amara
10	Muthanna	Samawa	Samawa
11	Najaf	Najaf	Najaf
12	Ninewa	Mosul	Mosul
13	Qadissiya	Diwaniyah	Diwaniyah
14	Salah al Din	Tikrit	Salah al Din
15	Sulaimaniyah	Sulaimaniyah	Sulaimaniyah
16	Tameem	Kirkuk	Kirkuk
17	Thi-Qar	Nassriyah	Nassriyah
18	Wassit	Kut	Kut

Iraq Governrates and Capital Codes as Pronounced in Arabic			
No.	Governorate (Till 2004)	Capital	Governorate (Since 2004)
1	Al Anbar	Al Ramadi	Al Ramadi
2	Babel	Al Hella	Al Hella
3	Baghdad	Baghdad	Baghdad
4	Al Basrah	Al Basrah	Al Basrah
5	D'hok	D'hok	D'hok
6	Diala	Baquba	Baquba
7	Arbil	Arbil	Arbil
8	Karbela	Karbela	Karbela
9	Maysan	Al Amara	Al Amara
10	Al Muthanna	Al Samawa	Al Samawa
11	Al Najaf	Al Najaf	Al Najaf
12	Nineweh	Al Mosul	Al Mosul
13	Al Qadisiya	Al Diwaniyah	Al Diwaniyah
14	Salah al Deen	Tikrit	Salah al Deen
15	Al Sulaimaniya	Al Sulaimaniyah	Al Sulaimaniyah
16	Al Ta'meem	Kirkuk	Kirkuk
17	Thi-Qar	Al Nassriyah	Al Nassriyah
18	Al Wasit	Al Kut	Al Kut