8．LC 案内

LC 案内-1　Center for Inspection of Industrial Safety Techniques II (SITES II)

Introduction OF CENTRE
Established in December, 26th, 1997 directly under State Department of Industrial Safety Techniques - Ministry of Industry
Performing inspection and issuing licenses for equipments deal with strict requirements on labor safety; technical control, consultancy, review the technical plan, organizing training, non-destructive testing services, pressure gauges, safety valves, 1 phase electrometer, ground-lightning, firing alert system inspection services, inspection of heat and temperature measurement devices, industrial environment safety, and international cooperation activities.
To the fields of testing, inspection which are need to have the delegation of power of another Authority, the Center had perform the works according to the Decision No 827/QĐ-TCĐ and 50/QĐ-TCĐ of Directorate for Quality and Standard; and the Perform Works of Radiation License No 1444/GP-BKHCN of Ministry of Science and Technology

Established and applied the quality management system for inspection of safety techniques of equipment according to the ISO 9001-2000, and was recognized by TUV NORT CERT-Germany on February 11th, 2003
With the force of skilled, full experienced engineers, inspectors, technicians, who are always supplemented for improving professional knowledge, plus with the precept "Safety First", we commit to be your really good partner in the field of safety, always ready to cooperate with any local and foreign partners in the concerned fields of activities.
ACTIVE OF CENTRE
Organizing training, and issuing safety techniques certificate for operator:
Organizing training, and issuing safety techniques certificate for operator of boiler, ressure equipment, cooling equipment, lifting equipment, electric equipment; training pressure welder.
In addition traning for experts, inspectors to satisfy the more and more higher of client's demands.
Equipment Inspection
Inspection of boiler and pressure vessel.
Inspecting, analyzing and assessing of piping system by ROHR2 software.
Inspection all kind of cranes, elevator, escalator
Inspection all kind of storage tanks and gas cylinders.
Cooperate with TUV-Asia Pacific (TUV-SUD Group - Germany) – international leader inspection company in all field of inspection.
Technical Control, Consultancy, Reviewin
Technical controling in technology transfer, manufacture, erection, and repairing all machines, equipments, materials, and substances deal with strict requirements on labor.
Consultancy, approving construction design, erection, fixing the machines, equipments, materials and substances deal with strict requirements on labor safety
Environment and Energy Saving Project
Executing the services of: Information, consulting, measuring- inspection insdustrial transfer for industrial environment and Energy Saving.
Flue gas analyzing (SOx, NOx, CO, CO2, O2, Dust, Tem,Flow)
Environment Water analyzing (Waste water, ground water, surface water)
Measuring – inspection of Industrial safety and hygiene
Measuring – inspection of electricl field and electromagnetic
Consulting saving energy project
Consulting Environmental Impact Assessment Report for investment project, (EIA report).
Consuting design technical, manufacture equipment, installion environment treatment system
International Co-operation
Performing international cooperation in the field of industrial safety techniques inspection and other relevant fields.
Performing study tours, visiting, and cooperation with TISRT, MPAD, DIW (Thailand), SLV Welding Institute, Nuclear Power Plant AKW Gundremmingen
Cooperate with TUV-Asia Pacific (TUV-SUD Germany) in all fields of activities:

LC 案内-2　ECC – HCMC

DEPARTMENT OF SCIENCE AND TECHNOLOGY
ENERGY CONSERVATION CENTER OF HOCHIMINH CITY

COMPANY PROFILE

DEPARTMENT OF SCIENCE AND TECHNOLOGY ENERGY CONSERVATION CENTER OF HCM CITY ————	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom – Happiness Ho Chi Minh City, December 3rd 2007

INFORMATION OF ENERGY CONSERVATION
CENTER OF HOCHIMINH CITY

Address : 244 Dien Bien Phu, District 3 HoChiMinh City S.R.Vietnam
Tel : 84-8555471 - 8570527 Fax: 84-8 8594105
Account : 007.100.08.24195 Vietcombank – HoChiMinh City Branch.
Tax code : 0302.691.882
Representative : Mr. Huynh Kim Tuoc – Director of Energy Conservation Center-HCMC

General information
The Energy Conservation Center of HoChiMinh City- a member of Department of Science and Technology of Ho Chi Minh City, is established in May 2002.
The Energy Conservation Center of HoChiMinh City executes activities in 4 main fields: Energy audit and technology transfer, Energy conservation training, Energy conservation information and communication and financial consultant.
Up to now, The Energy Conservation Center of HoChiMinh City has been developing to become a unit with a lot of orders, having ability to execute all complex and professional energy conservation tasks. We are now the first rank in Ho Chi Minh City in the field of energy conservation activities: planning project, designing, supervising projects of public lighting, private public lighting, energy audit and technology transfer for industry and civil.
Being directly dependent on the Department of Science and Technology of Ho Chi Minh City – a government agency assigned to advice, technology transfer, execute and management all the projects related to research and development science and technology of all sectors in HoChiMinh City, The Energy Conservation Center of HoChiMinh City has more advantages in consultant tasks for having mastered energy audit and technology transferring, energy conservation training, community education in energy conservation and efficiency field, construction investment management. Together with all mission mentioned above, The Energy Conservation Center of HoChiMinh City contributes to sustainable development of HoChiMinh City on energy field.

In applying the quality management System ISO 9001:2000, our consultant quality more and more increases so as to achieve quality & efficiency for all products.
With lot professional and high-responsibility experts, during its operation the workforce as well as the quality of professional engineer staff of The Energy Conservation Center of HoChiMinh City is more and more improved and become professionals.
In the field of public lighting, besides designing consultant and supervising consultant the projects in compliance with standards, regulations for public lighting The Energy Conservation Center of HoChiMinh City has made the breakthrough when the designing consultant Public lighting systems of Ho Chi Minh City, Private lighting systems, School's lighting systems and coordinating with French Consultant company consultant, executing and supervising lighting systems for industrial area such as Textile Garment, government buildings, official buildings, hotels, restaurants...
In the field of community education The Energy Conservation Center of HoChiMinh City is designing and issuing posters, flyers, brochures, comic stories and monthly news-bulletins to propagandize using energy efficiency. In addition, The Energy Conservation Center of HoChiMinh City organizes workshops, seminars and contests to upgrade awareness and acknowledge of residents on the field of energy conservation and efficiency.
Relating with the field of energy training The Energy Conservation Center of HoChiMinh City also compiles and issues materials of energy conservation and efficiency in several sectors such as rubber, textile, paper, ceramic, plastic, glass, steel, cement, and building...Moreover, The Energy Conservation Center of HoChiMinh City arranges courses to train the energy audit and energy management in industrial sector.

Legal References:

Establishment Decision: No 51/2002/QÑ-UB issued by People's Committee of Ho Chi Minh City dated May 10th 2002

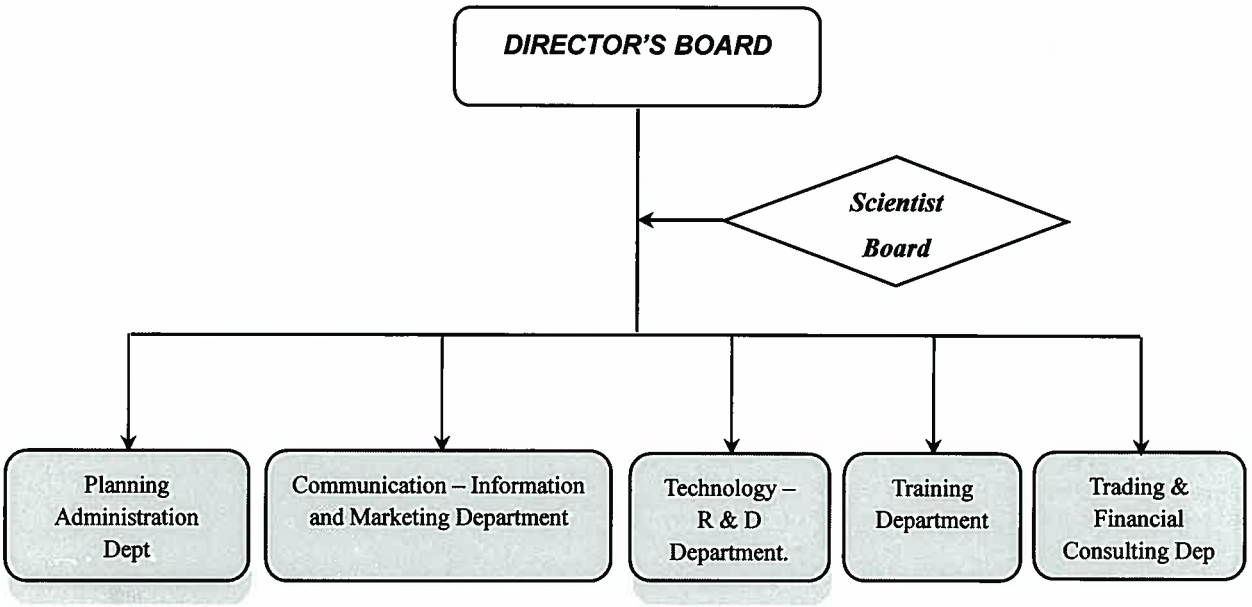
Main Activities:
Organize researching and developing new technology to save and use energy efficiently. Research, evaluate and give expert advices to build up strategies, scheme energy usage of different energy resources such as new energy, cleaner energy and renewable energy of Ho Chi Minh City area...
Working as the consultant on energy field within the functions and missions of DOST. Participate to compile the energy benchmark/standard for several branches such as: construction, industry, transportation, civil... according with the Government agencies' requirement that has authority.
Working as the consultant on formulating energy efficiency and renewable energy related policies to DOST (within the scope, functions and missions of DOST), implement methods and solutions of using energy efficiency; design, manufacture and transfer technology of energy conservation and efficiency.
Organize training course aimed to upgrade knowledge of energy conservation and efficiency to organization and individual concerned. Co-ordinate other organizations concerned for propaganda, information, broadcasting and development activities of saving energy.
Being a coordinating agency in developing co-operative relationships of energy conservation activities between HoChiMinh City and other provinces and international organizations.

Quality Policy:
There is an important mark in the management task that is The Energy Conservation Center of HoChiMinh City with The Department of Science and technology of Ho Chi Minh City have established successfully the quality management System ISO 9001:2000 at the beginning of the year 2007. The quality policy of The Energy Conservation Center is to ensure 70% of services on energy conservation and efficiency training, audit, consultant achieved above average (equivalent 70/100 grade); always training, upgrade knowledge, professional skill in order to execute well and increase labor productivity, effect of consultant tasks.

Organization:
The Energy Conservation Center of HoChiMinh City is directly under the Department of Science and Technology of Ho Chi Minh City, with other Bureaus, organizations (according to organization diagram of the Department of Science and Technology of Ho Chi Minh City). In the Energy Conservation Center of HoChiMinh City, experts work in working teams with the management of One Chief.

Organizational structure:

The center includes Board of Director and 5 function departments: Planning and Administrative department; Technology R&D Department; Communication – Information and Marketing Department; Training Department; Trading and Financial Consulting Department



Human resource:
Besides full time staff, ECC have collaborators coming from Universities, Research Institudes and Enterprises. Staff have qualified that trained at local and international universities related to technical management, business administration management, technology, energy, environment, finance and information technology,
ECC's full time staff included:
Master : 05
University Graduate : 28
College Graduate : 02
Especially, ECC currently have a wide network with collaborators:
Scientists, Doctors and Professors.
Experts on management, technology coming from universities and institutes,
Equipment and Solutions suppliers.

Achievements:
Execute project of evaluate loss of energy on public lighting system and private lighting system in HoChiMinh City area.
Build up software to manage database of electricity consumption of 1.2 millions units within Ho Chi Minh area.
Co – operate Technology University of HCMC to perform program assessing existing status of school's lighting system of 25 schools in 5 sectors (Kindergarten, Primary Schools, Secondary schools, high schools and colleges) designing 5 class model with lighting system standard. The program is foundation to develop class with energy efficiency lighting system standard.
Execute program of estimating loss of water supply network of HoChiMinh City. In 2006 drafted survey water supply network of Tan Hiep water manufacturer and build up energy efficiency opportunities.
Co-operate IEPF (France) to form management tools aimed to energy management in government buildings. (Operations include energy audit, training courses, seminars...)
On behalf of People Committee of HCMC and Ministry of Industry perform program of energy efficiency building award.
Perform program of energy management in Government buildings (activities included surveying construction standard, compiling materials, training ...).

Co-operate with HoChiMinh City Electric Power Company to organize training course on energy efficiency in government building for 45 participants of electric branches in HoChiMinh City.
Execute program of supporting enterprises to reduce cost of energy in production. The program included activities of training, energy audit, offer advices, information and building website of energy conservation ...
Participate project of Promoting Energy Conservation in Small and Medium Scale Enterprises presides by Ministry of Science & Technology and UNDP. Perform activities of energy audit and consultants, seminars, information and propagandizing, training courses...
Participate CEEP: working as consultants to enterprises who concerned CEEP that get the investment support in energy efficiency activities in their manufacturers.
Building up energy management model.
Co-operate HoChiMinh City electric power company to distribute 5000 flyers to government buildings in HoChiMinh City area.
Co-operate Women Association and Youth Association to organize training courses, seminars and contests for households and member of Youth Association in order to upgrade knowledge in energy conservation and efficiency.
Design & execute project of building Energy Information Center supported by ADEME organization (France).
Co-operate with Asian Energy Center on organizing training courses and workshops on Promoting of energy conservation and efficiency (Major on Industries, Buildings and Energy Management).

Consultancy Ability:
The Energy conservation Center has built up experts having high ability, and experience in the professional fields. Consultant tasks are controlled by the quality management System ISO 9001:2000 and all the Vietnam norms (TCVN), norm of IEC, norm of CIE... Experts of The Energy conservation Center have had consultant tasks for all projects of local and international Funds

Inspection and Testing Equipments:
The Energy conservation Center have equipped range of meter equipment such as lux meter, VOM, recorder, thermal meter, combustion analyzer,... to test the quality of products and machinery. And more, The Energy conservation Center have co-ordinate with Centre of Quality Standard (Quatest 3), laboratory of Universities in order to test the professional experiment according to requirement.
(Refer the appendix 1 attached)

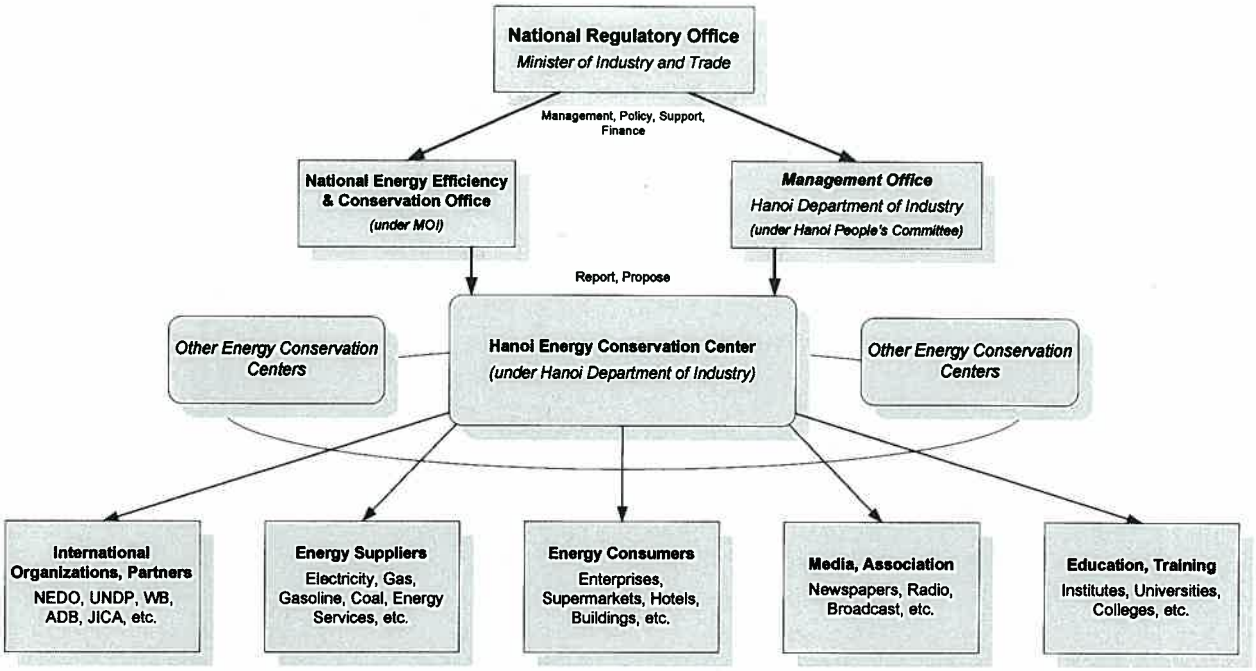
HANOI DEPARTMENT OF INDUSTRY
HANOI ENERGY CONSERVATION CENTER

TRUNG TÂM TIẾT KIỆM
ECC. HANOI
NĂNG LƯỢNG HÀ NỘI

HaNoi, 11/2007

Profile of ECC-Hanoi with Organization Chart

The organization chart should include names of Directors, names of Departments and number of employees
The Hanoi Energy Conservation Centre established pursuant to Decree 459/2006/QD-UBND dated February 1, 2007 of the Hanoi People Committee is a non-productive activity unit which has incomes, self-pay up partial regularly activity expenditure and directly under Hanoi Industrial Department; Having the legal personality, own stamp and open account at State Treasury and Bank for transaction complying with the current legislation. Hanoi Energy Conservation Centre is managed and guided by Hanoi Industrial Department in directly and comprehensive, take full legal responsibility for every activities.
English name: Hanoi Energy Conservation Centre
Abbreviation: ECC-Hanoi
Office address: No. 203 – Nguyen Huy Tuong St. – Thanh Xuan Dist. – Hanoi
Phone number: (+844) 2461429 Fax: (+844) 5575660
Email: hanoi.ecc@gmail.com
Thanks to its important geo-economic position in Hanoi as well as being a member of the eight-energy-conservation-center network of the National Energy Efficiency and Conservation Office, the Hanoi Energy Conservation Centre has function of researching and consulting for other organizations to manage and use national energy sources in saving and effective way.
Besides the main functions, Ecc-Hanoi has following duties :
To assist Director of Industrial Department to build the energy consumption database; Develop projects, programs relating to conservational and effective using energy sources (including: coal, gasoline, oil, gas, thermal, electric, and so on); Implement energy auditing, technical solutions for energy efficiency and conservation in consumption's side;
To do observation, measures and evaluate the energy result of saving in consumption's side;
To consult and develop the measures for energy efficiency and conservation; Transfer technologies and high efficiency equipments, Put model of managing energy saving and effective use in operation for other organisms and individuals;
To organize the consultancy, the financial assistance and implementation plans for energy saving and effective usage activities of other organisms and individuals;
To train and foster with knowledge on energy efficiency and conservation; Organize training activities relating to energy management for technical managers, technicians;
To promote, inform, broadcast and implement activities relating to energy conservation; Organize conferences and seminars for specific purposes;
To co-operate with other international and domestic organizations to supply technical solutions, equipments, devices and technologies for energy efficiency and conservation;
To manage all cadres, officers, contracted employees, given finance, equipments and properties complying with the current roles of State and of the City;
To implement other tasks requested by the Director of Hanoi Industrial Department;
Position of the Hanoi Energy Conservation Center in Vietnam Energy Conservation System is shown as following:



Main activities

Scope of ECC-Hanoi's activities is now due to functions and duties approved by Hanoi People's Committee and mainly concentrates on following aspects:

a. Counseling

Act as a counselor for Hanoi Department of Industry and Hanoi People's Committee to set up energy conservation policies and measures.

Set up energy database.

Set up projects, programs on using energy effectively.

b. Energy Audit

Survey, measure the energy consumed performance.

Assess survey results.

Find energy saving opportunities.

Provide technical solutions:

Provide high-performance electrical equipments such as transformers, motors, bulbs, etc.

Consult energy conservation design and operation.

Provide energy conservation solutions such as: inverter application, process optimization, etc.

Consume renewable energy.

Research and transfer energy conservation technologies proposed in audit report according to client's request.

c. Research and application

Research and implement the application of high-performance devices and equipments.

Optimize operation process:

Integrate production procedures.

Automate product processes.

Research, produce and apply energy saving, energy-consumption monitoring devices.

Research and apply such renewable energy as solar, wind, etc.

c. Consulting

The Center will consult organizations and individuals about consuming energy effectively:

Consult about energy conservation solutions.

Consult about finance solutions relating to energy saving activities.

Consult about organizing energy saving training courses.

Consult about choosing high-effective device providers.

Consult about technical solutions to reduce green house effect.

Consult about setting up a procedure to optimize energy usage.

Set up models of energy management.

d. Training

Organize general training courses of managing and saving energy for managers and personnel of energy management companies, organizations, etc.
Improve technical staffs' management knowledge and specific techniques of consuming energy effectively.
e. Propaganda
Organize scientific and specific seminars of consuming energy effectively.
Propagandize simple energy saving and conservation solutions to families, factories, buildings, etc through a direct consultancy or training courses.
Co-ordinate with media to propagandize energy saving and conservation news-letters to the public.
Co-ordinate with schools and university to propagandize energy saving knowledge.
Compile energy saving and conservation manuals.
Publish specific magazines, news letters.
Provide information as well as links to popular websites relating to energy conservation.
f. Setting up energy conservation standards
Counsel to set up energy conservation standards to such areas as: industries, transportations, civilizations, etc.
Counsel to set up minimum performance standards to energy-consumed equipments.
Verify performance of energy-consumed equipments and label some sorts of equipments.
g. Internal and external relation
Co-ordinate with appropriate authorities to implement energy saving and conservation projects and programs.
Co-ordinate with domestic and international organizations, individuals to look for and research technical solutions and to transfer energy conservation technologies.
Take a role of being the bridge between companies, individuals, organizations in energy conservation sectors.
Provide management and operation services of electrical systems.
According to your request, we would like to send the summary information as below:

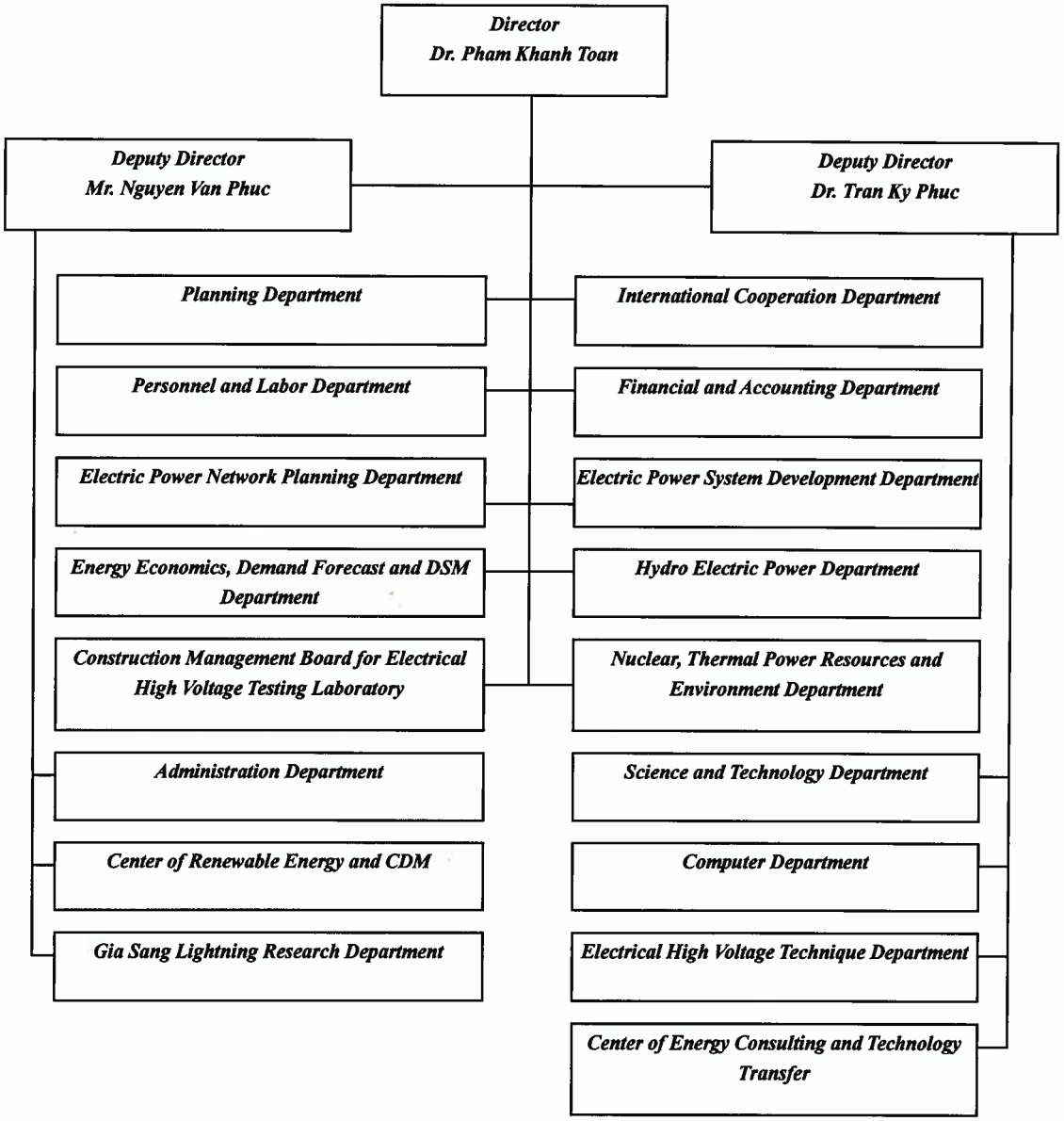
Items	Task name	Experience	Preference
1	Implementation the Energy Audit	Yes	Yes
2	Implementation the Baseline Study	Yes	Yes
3	Study for Inventory of EC programs in VietNam	No	Yes
4	Building EC database	No	Yes
5	Organization the Work shop	Yes	Yes

LC 案内- 4 : IE

Institute of Energy - IE

Profile of Local Consultant
Business Form
Institute of Energy was established on 1 January 1989 based on the integration of the Energy and Electrification Institute and Power Research Institute
Institute of Energy is an Energy Research and Planning Institute established on 1 January 1989 based on the integration of the Energy and Electrification Institute and Power Research Institute pursuant to the Decision No. 1379 NL/TCCB dated 05 December 1988 by the Ministry of Energy (now it is Ministry of Industry).
Science and Technology Registration dated 03-01-2003 by Ministry of Science, Technology and Environment. (Registration No. A-041).
License for Electricity Operation No. 134/GP-BCN dated 23 January 2003 by Ministry of Industry.
Certificate TCVN ISO 9001 : 2000 / ISO 9001 : 2000 No. HT 821.04.34 dated 18/11/2004 issued by Vietnam Certification Services.
From 01 January 2007 Institute of Energy is officially operating as a scientific and technology self-responsible organization in accordance to the Decision 115 of the Government.
Business Registration Paper on Science and Technology Organization No. 0109000010 dated 6 August 2007 issued by Department of Planning and Investment of Hanoi City.
License on Electricity Operation No. 1679/GP-BCN dated 15 May 2007 issued by Ministry of Industry.
Functions and Tasks
As a focal Body and Consultant for the Government and the Power Sector in formulation of national strategies and policies on energy and electricity development
Carry out research, planning of national power development, prepare Master Plan on Electric Power Development for Vietnam. Carry out power development planning for territorial, provincial, district, city, town and industrial areas.
Carry out pre-feasibility and feasibility studies of power generation, transmission projects in the whole country.
As a consultant in designing up-to 220 kV power line and substation projects.
As project owner's consultant for thermal power plants projects in stages of investment preparation, technical design and project implementation.
Carry out research, design, modification, upgrading of equipment, systems of thermal power plants.
Carry out basic research of issues interactive with electric power development such as development of substituting energy resources and energy conservation, improvement of lightning research equipment and electric insulation materials, environment and natural resources, clean development mechanism (CDM)...
Carry out research on energy economics and energy balance.
Research on hydraulic models serving technical designing, construction, management and repairing of structures in hydropower plants.
Carry out planning of small and medium hydropower station projects with installed capacity up to 30 MW/station.
As focal point for coordination, cooperation with international organizations in implementation of investment projects, technical-scientific research programs on national, regional energy/electricity development.
Involved in development of data bank, national and sectoral standards, technical specifications, and criteria serving electricity energy development.
Human Resource and Organizational Structure
Institute of Energy has 15 departments and 2 centers with 220 employees of which 9 doctors, 17 masters and 125 graduates. The Institute has the hydraulic laboratory, high voltage power and insulation laboratory, lightning research center, testing instrument for renewable energy research. Organizational structure of the Institute is as follows:

Organizational Structure of Institute of Energy



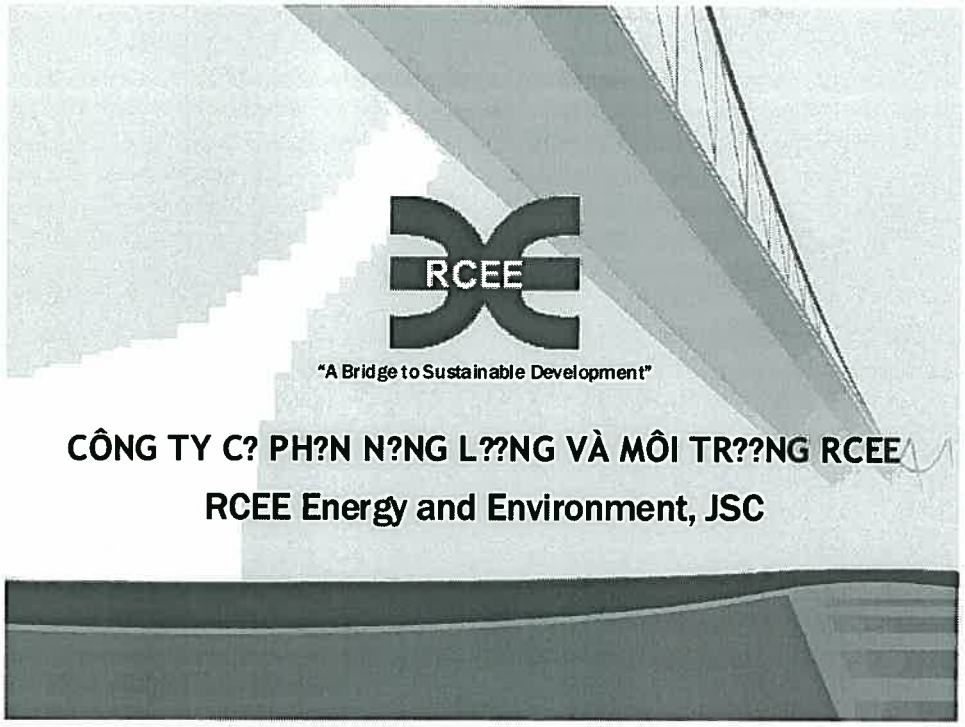
Consulting Firm's References

This section summarizes a number of relevant services carried out in the last five years that best illustrate qualifications:

Project Title	Financed by	Completion Year
National Energy Efficiency Program Phase 1 2006-2010	MOI	2010
Sixth Master Plan on National Electric Power Development (2006 - 2015, perspective up to 2025)	MOI	2006
The Local Investigation on Energy Data Acquisition System in Vietnam	JICA	2006
Database for Research Program on Promotion of Clean Coal Technology in Vietnam	CCUJ, Japan	2005
The Study on Analytical Survey on Final Energy Consumption and Establishment of Energy Balance Table	JICA	2005
Study on assessment of potential reduction of green house gases emission from energy activities in Vietnam	MOI	2004

Demand Side Management Program (DSM), Phase I: 2000-2003, in cooperation with Fichtner (Germany) and Hydro Quebec (Canada): Surveys on industrial and commercial customers and households and Detail energy audit for industrial and commercial customers	MOI	2003
The Study on Strategy Development for Power Sector in Vietnam	JICA	2002
Energy Sector Development Strategies up to 2020, KHCN - 09-02	MOI	2002

LC 案内- 5 : RCEE Energy and Environment, JSC



Overview

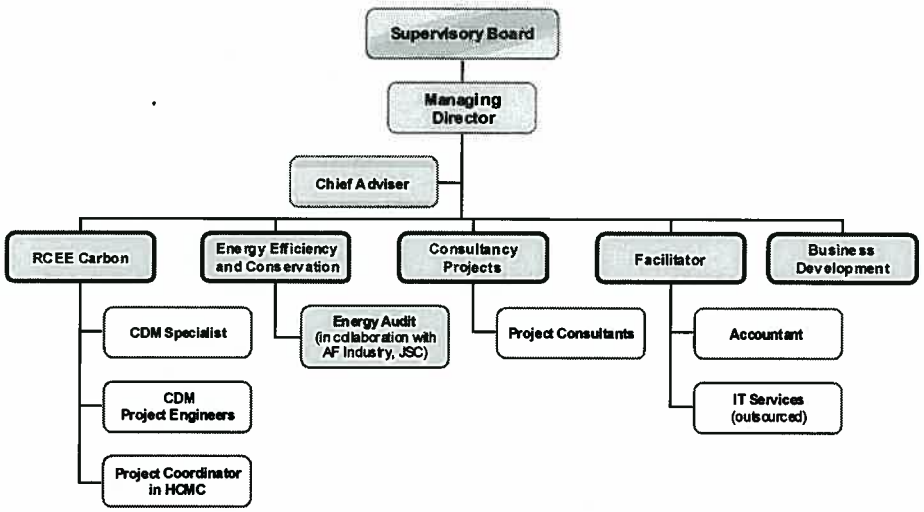
Research Center for Energy and Environment (RCEE)

- Non-profit research organization under Vietnam Union of Science and Technology Associations (VUSTA).
- Year of establishment: 1998.

RCEE Energy and Environment Joint Stock Company (RCEE., JSC)

- Founded in July 2006.
- Focusing on the development of consultancy services for Clean Development Mechanism (CDM) and brokerage of Certified Emission Reductions (CERs) under UNFCCC.

Organization



Contact

Address:	Suite 12A-08, 12th floor, ICC Building, 71 Nguyen Chi Thanh St., Hanoi, Vietnam
Tel:	+84 4 275 2407
Fax:	+84 4 275 2408
E-mail:	rcee.jsc@rcee.org.vn
Website:	www.rcee.org.vn

Area of expertise

- Renewable Energy
- Energy Efficiency and Conservation
- R&D and brokerage in Climate Change and Clean Development Mechanism under Kyoto protocol
- Training, education and raising public awareness of energy and environment issues.

EXPERIENCES

COGEN 3

Proven, Clean & Efficient Biomass, Coal, Gas Cogeneration

2002-2004

RCEE is the Country Coordinator for the EC-ASEAN Program Phase III on co-generation. The program aims to promote proven, clean and efficient cogeneration technology using biomass, coal and gas.

Energy Efficiency and Conservation

Demand Side Management and Energy Efficiency (DSM/EE)

2004-2006

The project is sponsored by the WB and managed by the Ministry of Industry. RCEE participates as the local consultant for the project.

Study on Industrial Scale Wind Power Development in the Central of Vietnam

2002-2004

This Project is a part of Research Program on Energy Development which is managed by Ministry of Industry of Vietnam.

Renewable Energy

Formulation of Legal Framework on Renewable Energy in Lao Cambodia and Vietnam

2006

The project is financed by European Commission and ASEAN Center for Energy. RCEE acts as the Local Consultant in Vietnam for main consultant Carl Bro International AB (Sweden)

RCEE-SOJITZ Joint Project on Biomass Study

2004-2005

RCEE is cooperating with the Sojitz (Japan) in a study on Biomass Development in Vietnam.

It is planned to study on the possibility of ethanol production in Vietnam for energy purposes.

Renewable Energy

Demonstrate Solar Campus in remote area with Abakus and TUV Rheiland

2006-2008

RCEE and two German partners Abakus and TÜV Rheiland received a financial support from DEG (Subsidiary of KfW) to demonstrate solar energy solutions for remote villages in Ha Long.

The project also includes trainings and seminars to bring this model popular with every remote population area which nation grid can not cover.

Rural Energy and Poverty Reduction

Vietnam – Sweden Rural Energy Program

2005-2008

ANALYSEN
STRATEGIEN
KONZEPTE

The program aims to increase the access of rural population of Vietnam to rural energy services which are reliable, affordable, appropriate and sustainable. RCEE joins as the chief local technical consultant of the project.

Rural Energy and Poverty Reduction

Enabling Access to Sustainable Energy Project

2004-2007

The project is sponsored by the Government of Netherlands through ETC Energy, aiming to prove the role of energy in poverty reduction and focusing in effective use of energy and executing pilot projects. RCEE is the country partner of the project.

National Strategy Study on Clean Development Mechanism

2002-2004

The project has been sponsored by the Government of Australia via the World Bank and managed by Vietnam Hydro-Meteorological Service. RCEE participated as main author for the Strategy.

Climate Change and Clean Development Mechanism

Capacity Development for CDM (CD4CDM)

2004-2005

The project is sponsored by the Netherlands Government via UNEP and managed by the Ministry of Natural Resources and Environment (MONRE). Research Center for Energy and Environment is responsible for 2 of 6 tasks of project.

Improving Awareness on CDM and Identifying Potential CDM Projects in China and Vietnam

2003-2004

The project is sponsored by the German Government and managed by the German TUV Rheinland Hongkong. The main focus of the project is promoting renewable and clean energy utilization, especially biomass under the CDM. Together with Chinese participants, RCEE is the Vietnamese partner of the project.

Key projects

- Song Con Hydro Power
- Ngoi Duong Hydro Power
- Za Hung Hydro Power
- Nam Chim Hydro Power
- Song Giang Hydro Power
- Su Pan 2 Hydro Power
- Ta Niet Hydro Power
- Minh Luong Hydro Power - under development
- A Luoi Hydro Power - under development
- Ha Long Municipal Waste Processing - under development

and more...

Our Partners

abakus
UNEP
Carl Bro
intelligent Solutions
DEG
TÜV
ABB
EAS
COGEN 3
sojitz
EVN
ETC

THANK YOU FOR YOUR ATTENTION

9. Tentative Terms of Reference for the Assignment for the Local Consultants on the Master Plan Study for Energy Conservation and Effective Use in Vietnam

November 20, 2007

TENTATIVE TERMS OF REFFERNCE FOR
THE ASSIGNMENT FOR THE LOCAL CONSULTANTS ON
THE MASTER PLAN STUDY FOR ENERGY CONSERVATION AND EFFECTIVE USE
IN VIETNAM

1. Introduction

In response to the request from the Government of Vietnam, i.e. Ministry of Industry and Trade (MOIT), the discussion is being carried on regarding the Scope of Work on "The Master Plan Study for Energy Conservation and Effective Use (EC) in Vietnam (STUDY)". After the official agreement between Japan International Cooperation Agency (JICA) and MOIT, JICA will send a JICA study team (TEAM) from 2008 onwards to conduct Study. The first visit will probably be in June 2008 to implement Study. STUDY is planned for 18 months.

2. Purpose of the Assignment to LC

JICA is, therefore, to ask the collaboration by the local consultants (LC) in Vietnam to assist TAEM for STUSY during the18 months from 2008 onwards to collect relevant fundamental data and information relating to comprehensive EC schema, i.e. to conduct Energy Audit, Baseline Study and Inventory Study, to build Database for EC and to organize and arrange Workshops (WS). This document is to provide LC with the assignment description, which might be more detailed and revised for practice by TEAM for implementation stage. This assignment description is for budget purpose only.

3. Scope of the work and Terms of Reference

1. Energy Audit for 10 enterprises, i.e. 4 enterprises in Northern Vietnam (Hanoi areas), 2 enterprises in Central Vietnam (Da Nang areas) and 4 enterprises in Southern Vietnam (Ho Chi Minh areas); LCs are to conduct and assist the "Walk through" audit planned by TEAM.
2. Baseline Study (with questionnaires and interviews) to obtain the following information shall be made by LC.
   - Awareness, attitude and/or activity on EC
   - Specific data, such as specification of existing equipments
   - Demands/load of comprehensive energy consumption with production facilities such as furnaces, boilers, pumps, motors and other facilities
   - Monthly production capacities

   Numbers of targets shall be 100 units in industries and commercial including government facilities, i.e. 40 units in Northern Vietnam (Hanoi areas), 20 units in Central Vietnam (Da Nang areas) and 40 units in Southern Vietnam (Ho Chi Minh areas).
3. Inventory Study including site visit and interviews on experienced and current programs for EC in Vietnam.

   For inventory, refer to the following information;

   ① Years and months from commencement and completion
   ② Total Budget
   ③ Agencies for Implementation in Vietnam
   ④ Names of international donors, if any
   ⑤ Detailed contents of programs in English
4. Database

   ① To design full mechanism on EC Database, i.e.
   - data collection,
   - input, data processing and output,

- data analysis
- useful use of output data

② Test run by model case at certain enterprises

5. Workshops

During 18 months in STUDY, WSs are planned to be held in Hanoi, Da Nang and Ho Chi Minh as follows;

① Inception: Hanoi
② Interim: each in Hanoi, Da Nang and Ho Chi Minh
③ Final: each in Hanoi and Ho Chi Minh.

Expected attendants are 100 persons at each WS, which is supposed to be one day long. To estimate comprehensive expense, i.e.

- Rental fee of venues such as hotel
- Food and drink at break including lunch
- Necessary equipments for WS
- Travel expense for staffs at LC

4. Schedule

The schedule of the work is as follows;

Months →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Energy Audit				■	■	■	■	■	■									
2. Baseline Study							■	■	■	■	■	■						
3. Inventory Study					■	■												
4. Database							■	■	■	■	■	■	■	■	■	■		
5. Workshops				■								■						■

5. Form of Proposal

The proposal is to be described as follows;

① Profile of LC with Organization Chart

Provide with the organization chart, which should include names of Directors, names of Departments and number of employees.

② Financial Proposal

The financial proposal shall include the following cost items. "Unit Price" and "Amount" shall be indicated in terms of US$. Estimate the total amounts for five each task, i.e. Energy Audit, Baseline Study, Inventory Study, Database and Workshops, and send the five individual formats by e-mail to Japan.

Even though you are to propose the each of the five tasks, indicate which tasks you have experience, and which tasks you prefer to do within the scope. If there might be manpower shortage because of some other scheduled tasks and/or less experience, temporary experts and/or engineers are allowed to be hired. For the tasks by hired basis, indicate the mark "HIRED" with the cost items on the table.

Remarks:

- Regarding "equipments", if you do not have necessary ones, you have two alternatives "Hired" and /or "Purchase"

- For the cost estimation, necessary documents are to be attached either soft copy or hard copy scanned to explain and detail the calculation process.

TABLE FOR THE COST ESTIMATION BY TASKS

Task Name : _____ Experience : YES or NO Preference : YES or NO

Cost Items (mark "HIRED" below if necessary)			Unit Price	Numbers of Units	Amount USD	Amount VND
I. Manpower cost		(Career / Experience)				
1.	Project Manager	(Minimum 5-10 years)				
2.	Collection of data & information	(Minimum 3 -5 years)				
3.	Analysis on Data and reports	(Minimum 3 -5 years)				
II. Other cost						
4.	a. Hired equipment expenses					
	b. Purchase of equipment					
5.	Translation to English					
6.	Vehicle rental expenses					
7.	Air fare, accommodation					
8.	Others (Communication, Misc., etc.,)					
III. Subtotal						
IV. Local Taxes (if any)						
V. Total cost						

③ Method and procedure to conduct the five tasks as follows;

(1) Energy Audit	(2) Baseline Study
(3) Inventory Study	(4) Database
(5) Workshops	

6. Instruction to LC

Documents and reports submitted to TEAM is to be written in English.

7. Others

The proposals of LCs are to be the important data to design the full schema of STUDY, which is supposed to be authorized by the Government of Japan and Vietnam.

Consultant Name	ECC-HCMC				IE				Center for Inspection of Industrial Safty Te				RCEE Energy and Environment, JSC				ECC-Hanoi			
Task Name Task-1 Audit	1. Energy Audit				1. Energy Audit				1. Energy Audit				1. Energy Audit				1. Energy Audit			
Cost Item	Unit Price	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND
Ⅰ. Manpower Cost																				
1 Project Manager	1,000*1Ma	6 M	6,000		1,500*1man	6 M	9,000		70	5	350				7,980				18,600	
Ccomputer programmer																				
2 Collection of data & information	700*2Men	6 M	8,400		1,000*3	6 M	18,000		250	5	1,250				2,100				9,160	
3 Analysis on data and reports	800*2Men	6 M	9,600		1,200*1	6 M	7,200		1,550	5	7,750				4,200				37,400	
Sub - total			24,000				34,200				9,350				14,280				65,160	
Ⅱ. Other cost																				
4 a. Hired equipment expenses																				
Hochiminh	20	16 Days	640		10set	US$1,000	10,000		200	5	1,000								2,850	
Hanoi	25	30 Days	1,500																	
b. Purchase of equipment					1laptop	US$1,500	1,500		150	5	750									
5 Translation to English	6	220 sheet	1,320		10reports *100pages	US$7/page	7,000		100	5	500				1,600				7,470	
6 Vehicle rental expenses	0.5	1,500km	750		200km/enterprises*10	US$0.5/km	1,000		1,000	5	5,000				600				7,700	
7 Air fare HCM-HN-HCM	190	5	950						2,000	5	10,000	*1)	200	2	400				4,240	
Air fare HCM-DN-HCM	112	5	560																	
accommodation	25	60	1,500				10,000	*1)					50	18	900				18,000	
8 Others(Communication, Misc.,etc)	40	6M	240		5phone cards	US$20/card	100		1,300	5	6,500				350				3,070	
Sub - total			7,460				29,600				23,750				3,850				43,330	
Ⅲ. Total			31,460				63,800				33,100				18,130				108,490	
Contingency													10%		1,813					
Ⅳ. Local Taxes(10%)			3,146				3190		10%		3,310		10%		1,994				10,849	
Ⅴ.G- Total cost			34,606				66,990				36,410				21,937				119,339	
Ⅵ. 評価	・5人で60泊の予定を立てている。 ・1社の監査を平均5－6日間とみている。 ・IEに比べ経験の少ないエンジニアが監査するため日数の余裕を見ているようだ。 ・監査は妥当なコストになっている。				・宿泊数ハノイ22、ダナン11、ホーチミン22泊としている ・22日で4社を5人で監査する。1社の監査に5日間みている。 ・監査する工場の規模が不明であるので、監査日数の多少を判断することはできないが、平均値で妥当と考える。 ・ハノイのLCがハノイ地区で宿泊するのは工場が市内から離れた遠方に存在するからだろう。 ・1社当たりの監査コストが高すぎる。				・人件費の算定基準が不明である。 ・5人で55泊の計算をしている。 ・熱関係のエンジニアも豊富で、経験もある。 ・コストから考えて妥当である。				・人件費の算定方法が不明 ・2人9泊で6件の監査をする。困難である。 ・監査でなくデータ収集と考えている。 ・当LCは実作業を外部委託している。 ・ヒアリングの結果、当LCの企業監査は困難である。				・全経費を1社毎に算出し、後で監査社数をかけるため費用が膨大になっている。 ・人件費は算定方法が不明 ・作業準備費など見積もりを細かく分けているので人件費として加えた。 ・監査専門家は外部委託する。			

注：＊1)チケット代＋宿泊費　　注：＊1)チケット代＋宿泊費

Consultant Name	ECC-HCMC				IE				Center for Inspection of Industrial Safty Te				RCEE Energy and Environment, JSC				ECC-Hanoi			
Task Name Task - 2 Baseline Study	2. Baseline Study				2. Baseline Study				2. Baseline Study				2. Baseline Study				2. Baseline Study			
Cost Item	Unit Price	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND
Ⅰ. Manpower Cost																				
1 Project Manager	1,000*1Ma	6M	6,000		1,500 *1man	3 M	4,500								26,600				25,000	
Ccomputer programmer																				
2 Collection of data & information	380*6Men	6M	13,680		1,000*7	3 M	21,000								10,500				23,870	
3 Analysis on data and reports	800*1 Ma	6M	4,800		1,200 *2	4.5 M	10,800								10,500				10,200	
Sub - total			24,480				36,300								47,600				59,070	
Ⅱ. Other cost																				
4 a. Hired equipment expenses																				
Hochiminh	30	2.5M	150																	
Hanoi	30	3.5M	210																	
b. Purchase of equipment																				
5 Translation to English	6	400 sheet	2,400		2reports * 200pages *7	400	2,800								4,000				1,530	
6 Vehicle rental expenses	0.5	1,500	750		40km *100units*0.5	4000	2,000								3,000				21,000	
7 Air fare HCM-HN-HCM	190	6	1,140				10,430	*1)					200	2	400				31,800	
Air fare HCM-DN-HCM	112	4	448																	
accommodation	25	180	4,500										50	120	6,000				36,000	
8 Others(Communication, Misc.,etc)	50	6	300				100								1,340				7,050	
Sub - total			9,898				15,330								14,740				97,380	
Ⅲ. Total			34,378				51,630								62,340				156,450	
Contingency													10%		6,234					
Ⅳ. Local Taxes(10%)			3,438				2582						10%		6,857		10%		15,645	
Ⅴ. G-Total cost			37,816				54,212								75,431				172,095	
Ⅵ. 評価	・調査人員8人（内3人はアルバイト）で100社の調査をする。 ・宿泊数から1日2社の調査を考えている。ハノイ40社を6人で20日とすると120泊、ダナン4人、10日で40泊、ホーチミン20泊である。 ・1日2社の調査は厳しいので30%くらいの余裕をみる必要がある。 ・調査費用は1社US$390（宿泊30%増）で妥当である。				・40社を22泊で調査する。 ・1日約2社の調査である。 ・初期3ヵ月は3人で調査し、後半3ヵ月を8人で調査する。 ・1件の調査が約US$540と高い。 ・1日2社の調査は厳しいので30%くらいの余裕をみる必要がある。				・参加せず。				・1人で60泊する。 ・2人で60社のデータ収集をする。 ・1泊US$50は他LCの2倍 ・車代US$3000は6,000km分で多い。 ・人件費基準が不明であるが、他社の2倍 ・調査コストが高い。 ・実調査は外部委託である。				・1調査毎の見積もりを100倍しているので膨大な見積もりになっている。 ・車代が高い。 ・調査専門家は外部委託する。			

注：＊1)チケット代＋宿泊費

Consultant Name	ECC-HCMC				IE				Center for Inspection of Industrial Safty Te				RCEE Energy and Environment, JSC				ECC-Hanoi			
Task Name Task-3 . Inventory Study	3. Inventory Study				3. Inventory Study				3. Inventory Study				3. Inventory Study				3. Inventory Study			
Cost Item	Unit Price	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND
Ⅰ. Manpower Cost																				
1 Project Manager	900*1Man	2M	1,800						10	20	200				5,320				1,500	
Ccomputer programmer																				
2 Collection of data & information	600*1Man	2M	1,200		2mens*2MM*1,000		4,000		150	20	3,000				10,000				3,600	
3 Analysis on data and reports	800*1Man	2M	1,600		1man *2MM*1,200		2,400		50	20	1,000									
Sub - total			4,600				6,400				4,200				15,320				5,100	
Ⅱ. Other cost																				
4 a. Hired equipment expenses																				
Hochiminh	2 Laptop *	2M	120																	
Hanoi									70	20	1,400									
b. Purchase of equipment									20	20	400									
5 Translation to English	6	2000sheet	12,000		2reports *100pages*7	200	1,400		10	200	2,000		4	2,000	8,000				485	
6 Vehicle rental expenses	0.5	800km	400		1,000km*0.5	1,000	500		150	20	3,000		100	20	2,000				9,000	
7 Air fare HCM-HN-HCM	190	8	1,520						400	20	8,000		200	2	400				2,000	
Air fare HCM-DN-HCM																				
accommodation	25	90	2,250				1,680	*1)					50	100	5,000				1,200	
8 Others(Communication, Misc.,etc)	250	2M	500						100	20	2,000				1,540				525	
Sub - total			16,790				3,580				16,800				16,940				13,210	
Ⅲ. Total			21,390				9,980				21,000				32,260				18,310	
Contingency													10%		3,226					
Ⅳ. Local Taxes(10%.)			2,139				499		10%		2,100		10%		3,549		10%		1,831	
Ⅴ. G-Total cost			23,529				10,479				23,100				39,035				20,141	
Ⅵ. 評価	・インベントリー調査は資料がハノイに集中しているので、ホーチミン所在LCは宿泊費がかさむ。 ・翻訳シート数が多い。				・ハノイ所在のために調査コストが安い。 ・但し、EEC-HCMCと翻訳シート数を調整すると、調査費用の優劣はつけがたい。 ・調査費用は妥当である。				・人件費の算定基準は不明である。 ・ハノイへの出張・宿泊数が多い。				・人件費算定基準不明であるが、他LCの2～3倍である。 ・車US$2000は4,000km分で多い。 ・宿泊は100泊、目的が不明				・ハノイ拠点のセンターであるが車代、航空券費用が高い。			

注: *1)チケット代＋宿泊費

Consultant Name	ECC-HCMC				IE				Center for Inspection of Industrial Safty Te				RCEE Energy and Environment, JSC				ECC-Hanoi			
Task Name Task-4 .Data base	4.Data base				4.Data base				4.Data base				4.Data base				4.Data base			
Cost Item	Unit Price	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND
Ⅰ. Manpower Cost																				
1 Project Manager	1100*1Ma	10M	11,000		1man*4MM*1,500	1	6,000								5,320					
Ccomputer programmer	700*2Men	8M	11,200																	
2 Collection of data & information	400*4Men	9M	14,400		1man *10MM*1, 000	1	10,000													
3 Analysis on data and reports	800*2Men	4M	6,400		1man*10MM*1,200	1	12,000								4,200					
Sub - total			43,000				28,000								9,520					
Ⅱ. Other cost																				
4 a. Hired equipment expenses	6lptop*30	10M	1,800																	
Hochiminh																				
Hanoi																				
b. Purchase of equipment					1laptop*1,500	1	1,500													
5 Translation to English	6	400 sheet	2,400		2reports *50pages*7	100	700						4	200	800					
6 Vehicle rental expenses	0.5	300	150																	
7 Air fare HCM-HN-HCM	190	3	570																	
Air fare HCM-DN-HCM																				
accommodation	25	12	300																	
8 Others(Communication, Misc.,etc)	70	10M	700												80					
Sub - total			5,920				2,200								880					
Ⅲ. Total			48,920				30,200								10,400					
Contingency																				
Ⅳ. Local Taxes(10%.)	10%		4,892		5%		1510						0		1,040					
Ⅴ. G-Total cost			53,812				31,710								11,440					
Ⅵ. 評価	・調査人員9名(内2名アルバイト)である。 ・データベースに関してはすでに実績があり、実績を反映した見積もりになっているようだ。 ・経験の少ないエンジニアのOJTを考えているのか、調査人員が多い。 ・「ベ」国でのヒアリングなどから、人件費を見直せばプログラム作成コストは妥当である。				・IEの場合、エンジニアがプログラマーも兼務するので特別プログラマーを必要としない。 ・プログラム作成コストは妥当。				・参加せず				・人件費の算定基準不明 ・データ収集は外部委託 ・過去の実績から、データベースの作成の経験はないようだ。 ・事業内容、事務所でのヒアリング内容からソフトを作成LCではない。							

Consultant Name	ECC-HCMC				IE				Center for Inspection of Industrial Safty Te				RCEE Energy and Environment, JSC				ECC-Hanoi			
Task Name Task-5 Work shop	5 Work shop				5 Work shop				5 Work Shop				5 Work Shop				5 Work Shop			
Cost Item	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND	Unit Price US$	Number of Units	Amount US$	Amount VND
Ⅰ. Manpower Cost																				
1 Project Manager	700	2	1,400								60				2,520				5,200	
Ccomputer programmer																				
2 Collection of data & information	500	2	1,000								1000				3,150				10,305	
3 Analysis on data and reports																				
Sub - total			2,400								1060				5,670				15,505	
Ⅱ. Other cost																				
ホテル関係			29,288				24,000								18,000				48,488	
通訳			450		2人＊6日＊100＄		1,200								1,800				900	
土産品															2,000				750	
4 a. Hired equipment expenses			375								1800				1,200					
Hochiminh																				
Hanoi																				
b. Purchase of equipment											900									
5 Translation to English											600				4,800				2,688	
6 Vehicle rental expenses			910								4500				1,200				2,310	
7 Air fare HCM-HN-HCM			1,812												3,600				8,020	
Air fare HCM-DN-HCM																				
accommodation			400				5,950	*1)			7400	*1)			3,000				14,800	
8 Others(Communication, Misc.,etc)			364								1800				6,760				1,800	
Sub - total			4,311				31,150				17000				42,360				79,756	
Ⅲ Total											18060				48,030				95,261	
Contingency																				
Ⅳ. Local Taxes(%)	10%				5%TAX		1,558		10%		1806		10%		4,800				9,526	
Ⅴ. G-Total cost			35,999				32,708				19866				52,830				104,787	
Ⅵ. 評価	・別紙に詳細見積もり有り。 ・必要な項目は細かくチェックされている。 ・航空券と宿泊日数に合わない点あり。 ・1WSのコストは約US$6,000である。 ・5社の中では最も詳細に見積もっている。 ・ホテルでの開催を前提としたため、ホテル経費が多くなっている。ホテルでの開催を前提にすれば、ワークショップ費用の見積もりは妥当である。				・人件費が計上されていない。 ・ホテルでの開催を前提としたため、ホテル経費が多くなっている。ホテルでの開催を前提にすれば、ワークショップ費用の見積もりは妥当である。 ・ハノイ、ホーチミンのLCに当該地区でのワークショップを担当させれば、移動費、宿泊費が削減できる。 ・IE, ECC-HCMCともほぼ妥当な経費である。				・航空券と宿泊数に疑問あり。 ・ホテルに関する費用が計上されていない。				・人件費が高い ・通訳費用が1日US$300と高い。 ・土産品を計上している。 ・宿泊に60泊も計上している。 ・航空券枚数が多い。				・参加者の交通費、宿泊費を見積もっていな ・ホーチミンの開催数が1回となっている、この表では2回とした。 ・サービス費（誰のためか不明）が計上されている。			
					注：＊1）チケット代＋宿泊費				注：＊1）チケット代＋宿泊費											