

Character

出现人物

G(Gu Yun): Manager of Haidian Project Department, General
Manager of Haidian Company

顾 顾韵)海电工程项目部经理 海电公司总经理

Z(Zhou Yi): Deputy Director of Haidian Project Department,
Chief Engineer of Haidian Power Station

周 (周伊) : 海电工程项目部副主任, 海电发电厂总工程师

⌘ Jack Smith): Senior Supervisor of Sales Division of ABB
Company

史(杰克。史密斯): ABB 公司销售工程部的高级主管

Y(Yu Jie): Representative of the East China Electric Power De-
sign Institute (ECEPDI)

俞(俞洁): 中国华东电力设计院代表

A (Ai Wei) : Technician of Haidian Project Department, A Sec-
tion Leader and Chief Dispatcher of Haidian Power
Station

艾 艾维)海电工程项目部技术员 海电发电厂科长 主调
度

J(Jiang Sen): Supervising Engineer

江(江森)监理工程师

C(Cen Cheng): Bidder and Contractor

岑(岑承)投标人 承包商

B(Bao Bao): Environmental Protection Engineer of Haidian
Power Station & Haidian Project Department

包(包宝): 海电工程项目部及海电发电厂环保工程师

Q(Qi Xing): Turbine Specialist of Haidian Power Station &
Haidian Project Department

齐(齐星): 海电工程项目部及海电发电厂汽轮机专工

D(Dai Xi): Electrical Engineer of Haidian Power Station &
Haidian Project Department

戴(戴西): 海电工程项目部及海电发电厂电气工程师

L(Lu Si): Boiler Specialist of Haidian Power Station & Haidian
Project Department

鲁(鲁思): 海电工程项目部及海电发电厂锅炉专工

R(Ren Ming): I & C(instruments and control) Specialist of
Haidian Power Station & Haidian Project Dep-
artmen

任 (任明) : 海电工程项目部及海电发电厂热控专工

H (Hua Quan) : Chemical Engineer of Haidian Power Station &
Haidian Project Department

花 (花泉) : 海电工程项目部及海电发电厂化学工程师

M(Mei Yi) : Fuel Conveying Specialist of Haidian Power Station
& Haidian Project Department

梅(梅逸) : 海电工程项目部及海电发电厂煤场专工

T (Tu Ni) : Civil Engineer of Haidian Power Station & Haidian
Project Department

屠(屠尼) : 海电工程项目部及海电发电厂土木工程师

K (Kong Er) : Shift Supervisor of Haidian Power Station, Fore-
man of Haidian Substation

孔(孔尔)海电发电厂值长 海电变电站班长

F(Fu Yu) : Shift Personnel and Technician of Haidian Power
Station, Trainee of Haidian Substation

付(付玉)海电发电厂值班员、技师 海电变电站实习生

W(Wayne) : A Visitor from Three Mile Island Nuclear Power
Station in the United States

韦(韦恩)访问者 来自美国三里岛核电站

X (Xiang Chong): Representative of China Electric Power Tests
& Research Institute

项 项冲)中国电力试验研究所代表

PART 1 Project

The Project Manager's Remarks:

In order to meet the continuously increasing load demand of the power grid of Shanghai, Haidian project, approved by the government, consisting of Haidian Power Station and Haidian Substation, will be built in Shengqiao town, Baoshan district, Shanghai.

Haidian Power Station consists of two coal-fired units of 600MW capacity. Generators are of QFSN 600-2 type, water-hydrogen inner-cooled turbine generator. Turbines are of N600-16.7/538/538 type, 600 MW subcritical condenser steam unit, single intermediate reheat, four cylinders, quadruple-flow and single-shaft. Two boilers are of 2008 t/h subcritical intermediate reheat controlled circulation drum-type.

Haidian Substation project is an outdoor layout 500 kV system, breaker-and-a-half type is designed. The 500 kV system consists of 4 outgoing feeders. The 220 kV system consists of 10 feeder lines and the primary system is of duplicate busbar, single section, two bypass busbars and indoor type.

The project, covering an area of 51 ha, is adjacent to Haijiang Gas Works to the east, to the downtown area of the city to

the south, to Haihu Water Works to the west, and to the Changjiang River to the north.

The total investment of the project is 6.37 billion yuan. Of the total investment, 2 billion will be invested by China Huaneng Group and 1 billion by Shanghai Electric Power Stock Co., Ltd., the rest will be credited by commercial bank under the guarantee by both parties.

第一部分 工程项目

项目总经理的话：

为了满足上海电网负荷增长的需要，经政府批准，上海市宝山区盛桥镇将要进行海电工程建设。海电工程包括海电发电厂和海电变电站两个项目。

海电发电厂工程为两台 600MW 燃煤机组。发电机为 QFSN-600-2 型水氢冷汽轮发电机；汽轮机为 600 MW 亚临界、一次中间再热、四缸、四排汽、单轴、凝汽式汽轮机 型号为 N600-16.7/538/538 两台锅炉均为 2008 t/h 亚临界中间再热式控制循环汽包炉。

海电变电站工程的 500 kV 系统为户外布置 采用 3/2 断路器接线方式。500 kV 系统有 4 根出线。220 kV 电气主接线为双母线、单分段、双旁路方式，户内布置。220 kV 系统有 10 条馈线。

工程总占地面积 51 万 m^2 东邻海江煤气厂 南通上海

市市区 西接海湖自来水厂 北临长江。

工程总投资 63.7 亿元，由中国华能集团公司投资 20 亿元，上海电力股份有限公司投资 10 亿元，投资不足部分由股东双方担保向银行贷款。

1.1 Stage of Feasibility Study, Primary Design, Inviting and Submitting Tender

可行性研究、初步设计及招投标阶段

Scene 1

Feasibility Study

可行性研究

(Haidian Project Department, Mr Smith is at the door of Zhou Yi's office)

(在海电工程项目部，史密斯先生来到项目部主任办公室门口)

Z: Hello, May I help you?

你有什么事吗？

S: Yes, I'm from ABB Company.

是的 我是 ABB 公司的。

Z: Welcome to the Project Department. I'm Zhou Yi, deputy director of the Project Department. May I have your calling card?

欢迎您来项目部。我是项目部副主任周伊。您有名片吗？

S: Yes, here you are. I'm Jack Smith, senior supervisor of Sales Division of ABB Company. Here's our brochure.

有。我是 ABB 公司销售部的高级主管杰克·史密斯。这是我们的产品介绍。

Z:Oh, I see. This project is to build a large fossil-fired power station, which has two 600 MW units. The preparation for the project has been done for more than one year.

.....我明白了。我们打算在这儿建一座有两台 600MW 发电机组的大型火力发电厂 筹建工作已进行一年多了。

S: I have heard about it. I would like to know what preparatory work has been done for the project up till today?

我听说了。我想知道至今进行了哪些筹备工作？

Z: Er, the investment agreement on the project has been reached and the Project Department set up is to assume the construction work. East China Electric Power Designing Institute (ECEPDI) is committed to carry out the feasibility study on the project.

嗯 已达成了投资协议 成立了这个项目部 主管筹建工作，并邀请了华东电力设计院对本工程进行可行性研

究。

S: So, how is the feasibility study going? I want to know more
那可行性研究工作进行得怎样了呢？我想了解得更多
一些。

Z: En, first of all, thanks to the lasting gap between power supply and demand in this area for a period of time in future, it's necessary to build a new power station. It is to be located near the Changjiang River from where it is easier to get the main fuel and the circulating water for the turbines. Electrostatic precipitators and stack-gas desulfurization facility are to be equipped with to lessen the influence on environment. Feasibility study is a very important procedure of the project. Two weeks ago, we submitted the official document of the feasibility study to the government for its final approval.

是这样,首先,在未来一段时间内,本地区电力供应仍然存在缺口,因此有必要建新发电厂;新发电厂选址在长江边,可以很方便地得到主燃料和汽轮机所需的循环水;新发电厂将安装电除尘器和烟气脱硫装置,以降低发电厂对环境的影响。可行性研究对整个工程来说非常重要。两周前,我们项目部已将可行性研究报告上报政府,以获得政府的批准。

S: Is it necessary to get the government's permission?

必须得到政府的批准吗？

Z: Sure, it's a lawful procedure to the project of this kind.

是的，这类工程项目必须得到政府的批准，这是法律规定的。

S: I see. Then what's your next step?

我明白了，下一步你们打算做什么呢？

Z: We hope to get the government's approval within three weeks, and then we will start the primary design of the project.

我们希望在三周内获得政府的批文 那样的话 我们就可以进行本工程的初步设计工作了。

Word list

project [ˈprɒdʒekt] <i>n.</i>	工程项目
deputy director	副主任
department [diˈpɑːtmənt] <i>n.</i>	部门
chief [tʃiːf] <i>adj.</i>	主要的 首席的
chief engineer	总工程师
power station	电站 发电厂
senior [ˈsiːniə] <i>adj.</i>	高级的 地位较高的
supervisor [ˈsjuːpəvaɪzə] <i>n.</i>	管理人 指导者 监督人
representative [ˌrepriˈzentətɪv] <i>n.</i>	代表

Electric Power Designing Institute	电力设计院
technician [tek'niʃən] <i>n.</i>	技术员 技师
section leader	科长
dispatcher [dis'pætʃə] <i>n.</i>	调度员
supervising engineer	监理 工程师
bidder ['bidə] <i>n.</i>	投标人
contractor [kən'træktə] <i>n.</i>	承包商
environmental [in'vaiəənməntəl] <i>adj.</i>	环境的
environmental protection	环保
environmental protection engineer	环保 工程师
specialist ['speʃəlist] <i>n. adj.</i>	专家 专门的
turbine specialist	汽轮机专工
electrical engineer	电气工程师
boiler specialist	锅炉专工
I(instrument) ['instrumənt] <i>n.</i>	仪器 仪表
C(control) [kən'trəl] <i>n.</i>	控制
I & C specialist	热控专工
chemical engineer	化学工程师
fuel conveying specialist	煤场专工
civil engineer	土木 工程师
shift supervisor	值长
foreman ['fɔ:mən] <i>n.</i>	班长 工长
shift personnel	值班人员 倒班人员
trainee [trei'ni:] <i>n.</i>	实习生
substation [ˌsʌbɪsteɪʃən] <i>n.</i>	分站 变电站

nuclear power station	原子能发电厂, 核电站
staff [stɑ:f] <i>n.</i>	职工 全体职员
Electric Power Tests & Research Institute	电力试验研究所
continuous [kən'tɪnjuəs] <i>adj.</i>	连续的 持续的
load demand	负荷需求
power grid	电网 动力网
approve [ə'pru:v] <i>vt.</i>	批准
government ['gʌvənmənt] <i>n.</i>	政府
coal-fired	燃煤的
M (mega) ['megə] <i>n.</i>	兆 (10 ⁶)
W (watt) [wɒt] <i>n.</i>	瓦 (瓦特)
capacity [kə'pæsɪti] <i>n.</i>	容量
hydrogen ['haɪdrɪdʒən] <i>n.</i>	氢
water-hydrogen inner-cooled turbine generator	水氢冷汽轮发电机
subcritical [sʌb'krɪtɪkəl] <i>adj.</i>	亚临界的, 临界以下的
condenser [kən'densə] <i>n.</i>	凝结器
condenser steam turbine	凝汽式汽轮机
intermediate [ɪntə'mi:djət] <i>adj.</i>	中间的
reheat [ri:'hi:t] <i>vt.</i>	再热 对...重新加热
single reheat	一次再热
cylinder ['sɪlɪndə] <i>n.</i>	汽缸
quadruple-flow	四排汽口
shaft [ʃɑ:ft] <i>n.</i>	轴

single-shaft	单轴
controlled circulation boiler	控制循环锅炉
drum [drʌm] <i>n.</i>	汽包
drum-type boiler	汽包式锅炉
outdoor [ˈaʊtdɔː] <i>adj.</i>	露天的 户外的
layout [ˈleɪaʊt] <i>n.</i>	布置
V (volt) [vɒlt] <i>n.</i>	伏特
breaker-and a-half type	3/2 断路器接线
outgoing feeder	输电馈线
feeder line	馈电线
primary [ˈpraɪməri] <i>adj.</i>	初步的 主要的
primary system	主接线
duplicate busbar	双母线
section [ˈsekʃən] <i>n.</i>	分段
bypass [ˈbaɪpɑːs] <i>n.</i>	旁路
ha (hectare) [ˈhektəː] <i>n.</i>	公顷
adjacent [əˈdʒeɪsənt] <i>adj.</i>	邻近的 接近的
water works	自来水厂
investment [ɪnˈvestmənt] <i>n.</i>	投资
billion [ˈbɪljən] <i>n.</i>	十亿 (的)
group [ɡruːp] <i>n.</i>	集团 组
invest [ɪnˈvest] <i>vt. & vi.</i>	投资
stock [stɒk] <i>n.</i>	股份
credit [ˈkredit] <i>n.</i>	贷款
commercial bank	商业银行

guarantee [ˌgærən'ti:] <i>n.</i>	担保
feasibility [ˌfi:ze'biliti] <i>n.</i>	可行性
feasibility study	可行性研究
invite [in'vait] <i>vt.</i>	征求 招引
submit [səb'mit] <i>vt.</i>	提交 呈递
tender ['tendə] <i>n.</i>	投标 招标 提出
invite tender	招标
submit tenders	投标
brochure [brəu'ʃuə] <i>n.</i>	小册子
fossil-fired power station	火力发电厂
preparation [prepə'reiʃən] <i>n.</i>	预备 准备 筹备
agreement [ə'gri:mənt] <i>n.</i>	协议
assume [ə'sju:m] <i>vt.</i>	承担 采取
last [la:st] <i>vi.</i>	持续
gap [gæp] <i>n.</i>	缺口 间隙
power supply	供电
circulating ['sə:kjuleitiŋ] <i>adj.</i>	循环的
circulating water	循环水
electrostatic [i'lektəu'stætik] <i>adj.</i>	静电的
precipitator [pri'sipiteitə] <i>n.</i>	沉淀剂
electrostatic precipitator	电除尘器
stack [stæk] <i>n.</i>	烟囱 烟道
stack gas	排烟, 烟囱废气
desulfurization [di:sʌlfərai'zeiʃən] <i>n.</i>	脱硫 去硫
stack-gas desulfurization	烟气脱硫

facility [fə'siliti] <i>n.</i>	装置
stack gas desulfurization facility	烟气脱硫装置
equip [i'kwip] <i>vt.</i>	配备
influence [ˈinfluəns] <i>n.</i>	影响
environment [inˈvaɪəɾənmənt] <i>n.</i>	环境
approval [əˈpru:vəl] <i>n.</i>	同意 批准
permission [pə'mɪʃən] <i>n.</i>	同意
lawful [ˈlɔ:fəl] <i>adj.</i>	法律许可的
procedure [prə'si:dʒə] <i>n.</i>	程序 手续

Scene 2:

Primary Design

初步设计

(In an office of the Project Department, Deputy Director Zhou Yi is making a phone call)

(在项目部的一个办公室内，周伊副主任正在打电话)

Z: Hello is that Yu Jie? This is Zhou Yi speaking. I have a good piece of news for you.

喂！是俞洁吗？我是周伊。我有个好消息要告诉你。

Y: Oh, yes? What's it?

是吗？什么事？

Z: We received the government's authorization degree yesterday.

So I'd like you to start the primary design of the project.

昨天，我们收到了政府的建厂批准程度许可证。现在我正式通知你，可以开展对本工程的初步设计工作了。

Y: Really? Great! Well, please tell me something about the improvement. And what instructions are from the government?

真的吗？太好了！那么，请介绍一下有关情况。政府对海电工程提出了什么指导意见？

好的。政府鼓励我们在本工程的设计中充分应用现代的自动化和通信技术 选用可靠性高而价格不高的先进设备。

mental protection?

关于环保问题，政府有什么建议吗？