

新编

中卷

电力英语教程

A **New** Course of English for Electric Power
Vol.2

上海电力学院外语系组编



电子工业出版社

PUBLISHING HOUSE OF ELECTRONICS INDUSTRY

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A New Course of English for Electric Power

Vol. 2

上海电力学院外语系组编

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前 言

改革开放以来, 在我国工业门类中, 电力工业发展最为迅速。各大电网已覆盖全国城市和大部分农村, 我国的发电装机容量和发电量均居世界第二位。我国电力工业已进入以大机组、大电厂、大电网、超高压、自动化为主干的新时期。

然而, 随着我国经济的不断发展和人民生活水平的提高, 尤其是中国加入 WTO 后, 国内电力供应日趋紧张。现有的发电装机容量和发电量已不能适应现代化建设的需要, 急需登上一个新的台阶。而电力工业的崛起将依赖于一大批素质高, 业务强, 懂英语的电力科技人才。

那么电力行业对技术人才的英语水平有何种要求? 显然英语 4 级、6 级证书并不能说明持证者应用英语的实际水平。我们认为懂英语就是要能用英语进行听说读写译全方位的活动。懂英语就是要能在商务谈判、学术交流中与外国同行用英语进行自由的交谈, 探讨电厂建设、电力生产、传输、销售等各个方面的问题。懂英语就是能用规范的英语撰写论文、报告、信函。显然目前的培养模式和英语教材已无法适应新型的电力科技人才的培养。为此我们必须开始新一轮的教改。我们的目的是彻底改变电力学院毕业生的外语素质, 使他们在未来能充分利用自己在外语方面的优势, 在电力人才市场占有一席之地。

具有 60 年校史的上海电力学院是培养电力科技工作者和电力系统急需人才的摇篮。为培养造就更多的能与国际电力水平接轨的复合型人才, 我们组织了英语专家学者, 精心编写了一套覆盖听说读写译 5 个方面、涵盖电力行业方方面面的新编电力英语教程。

丛书特色:“新编电力英语教程”深入浅出、内容丰富、涉猎广泛、题材多样。融科学性、趣味性和实用性为一体, 以新、大、全为特色。突出了基本功的培养。丛书共分 3 卷, 每卷由 3 个分册组成, 各册内容分别为:

上卷(1~3 册)

(第 1 册)电力英语阅读; (第 2 册)电力英语口语; (第 3 册)电力英语听力(1)

中卷(4~6 册)

(第 4 册)电力英语听力(2); (第 5 册)电力英语写作; (第 6 册)电力英语实用语法分析

下卷(7~9 册)

(第 7 册)电力科技英语; (第 8 册)电力市场英语; (第 9 册)电力英语翻译

读者对象:“新编电力英语教程”的阅读对象为电力院校的大学生以及从事电力工作的英语爱好者。广大读者通过阅读学习本丛书可以开阔视野, 获取信息, 增长知识。“新编电力英语教程”是广大学生和电力英语爱好者的良师益友。

参编人员:本丛书由上海电力学院外语系组编, 参加本丛书的编写人员是一个具有丰富教学经验、较强科研能力的群体, 包括教授 3 名、副教授 8 名、博士 1 名, 讲师 12 名, 英美留学人员 6 名。部分教师在全国电力系统及上海市享有一定的知名度和影响, 教学、科研成果丰硕。

本书的总主编杨大亮, 各分册主编、副主编的名字分别在各分册中, 唐俭和吴远恒是

上卷的主审，魏永红和庄起敏是中卷的主审，庄起敏和吴远恒是下卷的主审。此外参加本书的编者还有姚明广、李光、赵刚、李丹、杨凤茹、郭智慧、缪莹等同志，他们承担本书编写前期大量的资料收集、筛选、编译和校对工作。

在编写过程中，我们参阅了国内外出版的大量有关资料和信息，主要参考文献目录附于书末。在此，谨表诚挚的谢意。

由于编者水平有限，疏忽之处实属难免，恳请学界同仁和读者批评指正。

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编 者

2004 年 7 月于上海

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新编电力英语教程(第4册)

电力英语听力(2)

A Listening Course in Electric Power(2)

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编写说明

随着近年来科学技术和经济的飞速发展，人们使用英语参与技术业务谈判、专业学术交流、国际技术合作等的机会日益增多。许多学习者都因仅学过一些日常英语，听不懂科技英语，不能进行有效的交际而发愁。因此，突破英语听力障碍，提高科技英语的听力能力，掌握科技英语听力技能，参与国内外的技术交流，成了一个紧迫而又亟需解决的问题。《电力英语听力》正是为了解决这一方面学习者的需求而编写的。它是连接听懂日常英语和通向专业英语交际的桥梁。

本册书共分 3 个部分 12 个单元，第一部分是电力英语听力，包括火力发电、核能发电、水力发电和其他能源等 4 个方面，各篇文章选材力求贴近电力英语实际。第二部分是听力练习参考答案。第三部分是听力录音文稿。

英语听力是人们英语交际能力的重要方面，它是英语教学中听、读、说、写、译中五项重要技能之一，它也一直是中国学生学习英语的一个难点。提高英语听力能力，特别是听懂科技英语的能力，对于学习者适应社会，学以致用关系重大，它可以促进语言技能的发展，为培养学生综合英语交际的能力打下坚实的基础。

本册书在编写过程中，注意语言材料的实用性，规范性，科学性。编者在研究了大量国内外原文素材后，通过反复比较，仔细斟酌，从中筛选出适合中国学生的实用材料。内容涉及火力发电、核能发电、水力发电和其他能源，如风能、地热能、太阳能发电等等。通过以上内容的学习，使学习者既可有效地提高英语听力能力，又可全面地掌握电力技术领域的知识，达到双赢的目的。

本册书使用的对象是具有一定基础英语能力的英语学习者，它可作为一部学完基础听力之后的后续教材。通过系统训练，达到听懂电力专业技术语言知识，提高专业语言的技能，为进一步参与电力技术工程的语言交际做准备。它也适合于对电力科学知识感兴趣的语言爱好者。为了方便读者，书后配有练习答案、录音原文以及全部文章的参考译文，我们还配有听力的录音磁带，如需要请和我们联系。

本套教材在编写过程中，参考了部分有关材料，在此对原编者表示感谢。本册书的编者都是长期从事大学英语教学工作的教师，虽然在编写过程中殚精竭虑，兢兢业业，但难免会有错误和不足之处，我们恳请读者见谅并提出批评或建议。

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Chapter 1

Listening Comprehension Exercises 电力英语听力

Unit 1 Thermal Electric Power 火力发电

Lesson 1 General/Brief Introduction of Thermal Power Plants

火力发电厂简介

Section A: Vocabulary

I. New words

fuel n. 燃料	thermal a. 热的
load n. 负荷	coal n. 煤
classify v. 分类	petroleum n. 石油
flexible a. 灵活的	efficiency n. 效率
simultaneously ad. 同时地	mode n. 方式

II. Useful phrases and expressions

condensing power plant	凝汽式电厂
load center	负荷中心
fuel base	燃料基地
high-voltage line	高压线路
mine-mouth power plant	坑口电厂
generate electricity	发电
give consideration to both...and...	兼顾

Section B: Exercises:

I. In this part you are going to hear several sentences. Complete them according to what you hear on the tape:

- (1) Thermal power plants are those making use of _____ like _____, _____ and _____.
- (2) Condensing power plants _____ generate electricity and are _____ constructed in the fuel bases.
- (3) Thermal power plants are those _____ and _____ simultaneously.

- (3) What is the major difference between a thermal power plant and a condensing one?

- (4) Why should a thermal power plant be built near mining areas?

- (5) What is the major trend of constructing big thermal power plants in China?

V. Dictation. In this section, a paragraph chosen from the material will be read three times and write down every word you hear. The first reading will be read at normal speed, listen and try to get the meaning. The second reading will be read sentence by sentence or phrase by phrase. Do the activity during the second reading. The third reading will be at normal speed again and check your work.

VI. Listen to the material again and taking notes when you are listening. After that please sum up the differences of both thermal power plant and a condensing power plant mentioned in this passage and fill in the following table with a few words.

	Thermal power plant	Condensing power plant
Functions		
Operating Modes		
Location		

Lesson 2 Major Features of Thermal Power Plant

火电厂主要特点

Section A: Vocabulary

I. Key words

install v. 安装	feature n. 特点
investment n. 投资	hydraulic a. 水力的
average a. 平均的	comparatively ad. 比较地

C. automobile industry

D. metallurgical industry

(4) Which of the following reasons is not mentioned in this passage to explain why it usually costs more to run a thermal power plant?

A. A thermal power plant must buy coal.

B. A thermal power plant has complex equipments.

C. A thermal power plant consumes more service power.

D. A thermal power plant needs more operating workers.

(5) How many years does it generally take to construct a thermal power plant?

A. ten years or longer

B. seven to ten years

C. five to seven years

D. three to five years

III. Listen to the material again and write a T in front of a statement if it is correct or an F in front of a statement if it is false according to the recording.

(1) () More than 17% of the installed capacity of China's electrical power system is taken up by thermal power plants.

(2) () A thermal power plant's plot is very flexible.

(3) () According to different needs, a thermal power plant's installed capacity can be different.

(4) () Generally speaking, a hydraulic power plant needs twice investment compared with a thermal power plant.

(5) () Most thermal power plants in China uses natural gas as fuel.

IV. Answer the following questions briefly according to the listening material:

(1) What are the advantages of a thermal power plant?

(2) How many years does it need to build a hydraulic power plant?

V. Dictation. In this section, a paragraph chosen from the material will be read to you three times and write down every word you hear. The first reading will be read at normal speed, listen and try to get the meaning. The second reading will be read sentence by sentence or phrase by phrase. Do the activity during the second reading. The third reading will be at normal speed again and check your work.

VI. Listen to the material again and taking notes while you are listening. After listen to the material please fill in the following chart according to the notes you have taken. Be sure

to use as minimum words as possible.

	Thermal power plant	Hydraulic power plant
Advantages		
Disadvantages		

Lesson 3 Basic Knowledge of Thermal Energy

火电厂基本生产流程

Section A: Vocabulary

I. Key words

specific a. 具体的	pulverize v. 把……磨成细粉
furnace n. 炉膛	boiler n. 锅炉
impulse v. 推动	turbine n. 汽轮机
rotor n. 转子	generator n. 发电机
axle n. 轴	intermediary n. 介质
alternate a. 交替的	thermodynamic a. 热动的

II. Useful phrases and expressions

electricity-generating plant 发电厂	chemical energy 化学能
thermal energy 热能	mechanical energy 机械能
electrical energy 电能	pulverized coal 煤粉
turbine rotor 汽轮机转子	steam turbine 汽轮机
as-fired basis 工质	working intermediary 工作媒介

Section B: Exercises:

I. In this part you are going to hear several sentences. Complete them according to what you hear on the tape:

(1) A thermal power plant is an _____ plant using coal as major fuel and its _____ procedure is actually a _____ that changes chemical energy into electrical energy.

(2) To be _____, the pulverized coal is transported to the furnace.

- (3) The chemical energy produced heats the water in the _____ and change it into steam.
- (4) The working _____ that can change chemical energy to mechanical energy is called as-fired basis.
- (5) Steam is comparatively _____.

II. Listen to the whole passage. The following questions are all about the listening material you have just heard. Choose one best answer from the four choices marked A, B, C and D.

- (1) The producing procedure in a thermal power plant is actually changing _____ to _____.
- A. chemical energy, mechanical energy
B. mechanical energy, chemical energy
C. chemical energy, electrical energy
D. electrical energy, chemical energy
- (2) The passage says that the coal burns and produces heat, then what does the heat do?
- A. heats the equipments
B. heats the water and changes it into steam
C. impulses the rotor
D. impulses the boiler
- (3) What is the as-fired basis in a thermal power plant?
- A. water B. coal C. steam D. rotor
- (4) According to the description in this passage, how many steps does it need to change chemical energy to electrical energy?
- A. three B. four C. five D. six
- (5) The steam's four alternate changes help it run the turbine and which of the following choices tells us the correct order?
- A. cooling, expansion, compression, heating
B. eating, expansion, compression, cooling
C. expansion, compression, heating, cooling
D. heating, compression, expansion, cooling

III. Listen to the material again and write a T in front of a statement if it is correct or an F in front of a statement if it is false according to the recording.

- (1) () Electricity-generating plants use coal as fuel.
- (2) () It is in the furnace that water is changed to steam.
- (3) () Burning can change mechanical energy to thermal energy.
- (4) () The steam without temperature and pressure can impulse the turbine rotor.
- (5) () As-fired basis is the material that can change mechanical energy to thermal energy.

IV. Answer the following questions briefly according to the listening material:

- (1) What are the essential steps changing chemical energy to electrical energy?