



# 中华人民共和国环境保护部

Ministry of Environmental Protection of the People's Republic of China

索引号: 000014672/2010-00037  
Index No: 000014672/2010-00037

分类: 环境科技及其管理信息\环

境标准 Classification: Environmental  
Technologies and Its Management and  
Information/ Environmental Standard

发布单位: 科技标准司  
Announcement Party: technology  
Standard Department

生成日期: 2010年01月27日  
Date of Occurrence: January 27, 2010

名称: 关于发布《火电厂氮氧化物防治技术政策》的通知

Subject: Regarding Notice of Issuance of 《Fossil-fired Power Plant's NOx Emission  
Prevention and Control Policy

文号: 环发[2010]10号  
Document No.: Huan Fa No. 10 [2010]

主题词: 环保 氮氧化物 技术政

策 通知 Key Words: Environmental  
Protection, Nitrogen Oxides, Technology  
Policy, Notice

环境保护部文件

Document of Ministry of Environmental Protection

环发[2010]10号

Document No.: Huan Fa No. 10 [2010]

关于发布《火电厂氮氧化物防治技术政策》的通知

Notice of Issuance

《Fossil-fired Power Plant's NOx Emission Prevention and Control Policy》

各省、自治区、直辖市环境保护厅（局），新疆生产建设兵团环境保护局，计划单列市环境保护局：

To the Environmental Protection Ministry (Bureau) (EPM or EPB) of various provinces, Autonomous Regions, Direct Report Municipalities, EPB of Xinjiang Production and Construction Corps and the City EPB's on the Independent Planning List:

为贯彻《中华人民共和国大气污染防治法》，控制和减少火电厂氮氧化物排放，推动火电厂氮氧化物防治技术进步，改善大气环境质量，保护人体健康，现发布《火电厂氮氧化物防治技术政策》，请参照执行。

To implement the "The People's Republic of China Air Pollution Prevention and Control Law," to control and reduce fossil-fuel fired power plant nitrogen oxides (NOx) emissions, to promote the advancement of thermal power plant's NOx control technologies, to improve ambient air quality and environment, to protect human health, we now issue "Thermal Power Plant Nitrogen Oxide Prevention and Control Policy ". Please reference and to execute accordingly.

附件：火电厂氮氧化物防治技术政策

Appendix: 《Fossil-fired Power Plant's NOx Emission Prevention and Control Policy》

二〇一〇年一月二十七日  
January 27, 2010

主题词：环保 氮氧化物 技术政策 通知

Key Words: Environmental Protection, Nitrogen Oxides, Technology Policy, Notice

## 附件 **Appendix:**

# 火电厂氮氧化物防治技术政策 《**Fossil-fired Power Plant's NOx Emission Prevention and Control Policy**》

## **1 总则 General Provisions**

1.1 为贯彻《中华人民共和国大气污染防治法》，防治火电厂氮氧化物排放造成的污染，改善大气环境质量，保护生态环境，促进火电行业可持续发展和氮氧化物减排及控制技术进步，制定本技术政策。

1.1 This Technology Policy is to thoroughly set 《People's Republic of China's Air Pollution Prevention and Control Law》, to control NOx emission caused pollution from fossil-fuel fired power plants, to improve ambient air quality, to protect the ecological environment and promote sustainable development of the thermal power industry, and advancement of NOx emission reduction and control technologies.

1.2 本技术政策适用于燃煤发电和热电联产机组氮氧化物排放控制。燃用其他燃料的发电和热电联产机组的氮氧化物排放控制，可参照本技术政策执行。

1.2 This Technology Policy applies to NOx emissions control of coal-fired power generation and cogeneration units. For control of NOx emissions by power generating and cogeneration units burning other type of fuels, please refer to this Technology Policy for implementation.

1.3 本技术政策控制重点是全国范围内 200MW 及以上燃煤发电机组和热电联产机组以及大气污染重点控制区域内的所有燃煤发电机组和热电联产机组。

1.3 The Technology Policy's focus is on the control of 200MW or bigger coal-fired power generation and cogeneration units throughout the country and all such units in air pollution control "Focus Regions".

1.4 加强电源结构调整力度，加速淘汰 100MW 及以下燃煤凝汽机组，继续实施“上大压小”政策，积极发展大容量、高参数的大型燃煤机组和以热定电的热电联产项目，以提高能源利用率。

1.4 Strengthen our adjustments on better structuring the power sources, speed up the elimination of 100MW or smaller coal-fired, condensing turbine units, continue to implement the "replacing smaller units with big ones" policy and actively develop high-capacity, sophisticated-parameter large-scale coal-fired units and "using heat to fix cogenerated power" projects in cogeneration, so to improve the utilization efficiency of energy resources.

## **2 防治技术路线 Prevention and Control Technology Pathway**

2.1 倡导合理使用燃料与污染控制技术相结合、燃烧控制技术和烟气脱硝技术相结合的综合防治措施，以减少燃煤电厂氮氧化物的排放。

2.1 Promote rational use of fuels and pollution control technology in combination, as well as combustion control technology and flue gas deNOx technology in combination as comprehensive prevention and control measures to reduce NOx emissions from coal-fired power plants.

2.2 燃煤电厂氮氧化物控制技术的选择应因地制宜、因煤制宜、因炉制宜，依据技术上成熟、经济上合理及便于操作来确定。

2.2 The selection of coal-fired power plant NOx control technologies should be in accordance with local, coal and combustion unit (boiler) conditions, as determined by technical maturity, reasonable economics, and ease of operation.

2.3 低氮燃烧技术应作为燃煤电厂氮氧化物控制的首选技术。当采用低氮燃烧技术后，氮氧化物排放浓度不达标或不满足总量控制要求时，应建设烟气脱硝设施。

2.3 Low NOx Combustion Technologies should be used as the priority choice of technology for NOx control. After Low NOx Combustion Technologies, if the NOx level still cannot meet the emission standard or total emission reduction requirement, the unit should install flue gas deNOx facility.

### **3 低氮燃烧技术 Low NOx Combustion Technologies**

3.1 发电锅炉制造厂及其他单位在设计、生产发电锅炉时，应配置高效的低氮燃烧技术和装置，以减少氮氧化物的产生和排放。

3.1 When designing and producing power generating boilers, the boiler or other manufacturers should configure highly efficient Low NOx Combustion Technology devices to reduce NOx generation and emission.

3.2 新建、改建、扩建的燃煤电厂，应选用装配有高效低氮燃烧技术和装置的发电锅炉。

3.2 New, renovated or expanded coal-fired power plants should select power generating boilers equipped with high efficiency Low NOx Combustion Technology and devices.

3.3 在役燃煤机组氮氧化物排放浓度不达标或不满足总量控制要求的电厂，应进行低氮燃烧技术改造。

3.3 The operating coal-fired units, if the NOx emission levels cannot meet the emission standard or total emission reduction requirement, should be renovated with Low NOx Combustion Technology and devices.

### **4 烟气脱硝技术 Flue Gas DeNOx Control Technologies**

4.1 位于大气污染重点控制区域内的新建、改建、扩建的燃煤发电机组和热电联产机组应配置烟气脱硝设施，并与主机同时设计、施工和投运。非重点控制区域内的新建、改建、扩建的燃煤发电机组和热电联产机组应根据排放标准、总量指标及建设项目环境影响报告书批复要求建设烟气脱硝装置。

4.1 The new, renovate or expanded coal-fired and cogeneration units located in air pollution control "Focus Regions" should be equipped with NOx Control facilities which should be designed, installed and operated at the same time as the boiler. All the new, renovate or expanded coal-fired and cogeneration units "Not in Focus Regions" should comply with the respective permit report approved NOx Emission Standard, total emission target and Environmental Impact Assessment (EIA) requirement.

4.2 对在役燃煤机组进行低氮燃烧技术改造后，其氮氧化物排放浓度仍不达标或不满足总量控制要求时，应配置烟气脱硝设施。

4.2 The operating units after installing the Low NOx Technology, if the NOx level still cannot meet the emission standard or total emission reduction requirement should install flue gas deNOx facility.

4.3 烟气脱硝技术主要有：选择性催化还原技术（SCR）、选择性非催化还原技术（SNCR）、选择性非催化还原与选择性催化还原联合技术（SNCR-SCR）及其他烟气脱硝技术。

4.3 Major flue gas deNOx technologies include: SCR, SNCR, Combined SNCR-SCR and other deNOx technologies.

4.3.1 新建、改建、扩建的燃煤机组，宜选用 SCR；小于等于 600MW 时，也可选用 SNCR-SCR。

4.3.1 The Newly, renovated or expanded plant's coal-fired units should prefer to use SCR. Units equal to or smaller than 600 MW can also choose to use SNCR-SCR.

4.3.2 燃用无烟煤或贫煤且投运时间不足 20 年的在役机组，宜选用 SCR 或 SNCR-SCR。

4.3.2 Operating units burning anthracite or low grade Ping coal and with less than 20 years vintage should prefer to use SCR or SNCR-SCR.

4.3.3 燃用烟煤或褐煤且投运时间不足 20 年的在役机组，宜选用 SNCR 或其他烟气脱硝技术。

4.3.3 Operating units burning bituminous or brown coal and with less than 20 years vintage should prefer to use SNCR or other flue gas deNOx technologies.

4.4 烟气脱硝还原剂的选择

4.4 Selection of Reducing Agent for flue gas DeNOx Process

4.4.1 还原剂的选择应综合考虑安全、环保、经济等多方面因素。

4.4.1 The selection of reducing agent should consider overall factors including safety, environmental protection, economics, etc.

4.4.2 选用液氨作为还原剂时，应符合《重大危险源辨识》（GB18218）及《建筑设计防火规范》（GB50016）中的有关规定。

4.4.2 When choosing anhydrous ammonia, the unit should meet the regulations stipulated in 《Identification of Significantly Large Hazardous Sources 《GB 18218》 and “Fire Prevention Specifications in Architect Design 《GB50016》”.

4.4.3 位于人口稠密区的烟气脱硝设施，宜选用尿素作为还原剂。

4.4.3 When deNOx facilities are located in high population density regions, urea is preferred to be used as the reducing agent.

4.5 烟气脱硝二次污染控制

4.5 Secondary Emissions from Flue Gas deNOx Process

4.5.1 SCR 和 SNCR—SCR 氨逃逸控制在 2.5mg/m<sup>3</sup>（干基，标准状态）以下；SNCR 氨逃逸控制在 8 mg/m<sup>3</sup>（干基，标准状态）以下。

4.5.1 The ammonia slip for SCR and SNCR—SCR should be controlled to 2.5mg/m<sup>3</sup> (dry, standard) or below; the ammonia slip for SNCR should be controlled at a maximum of 8 mg/m<sup>3</sup> (dry, standard).

4.5.2 失效催化剂应优先进行再生处理，无法再生的应进行无害化处理。

4.5.2 Activity regeneration treatment should be exercised on spent SCR catalyst as a priority. For the catalysts that cannot be restored for activity, non-hazardous treatment should be applied.

## 5 新技术开发 **New Technology Development**

5.1 鼓励高效低氮燃烧技术及适合国情的循环流化床锅炉的开发和应用。

5.1 Encourage the development and application of high efficiency Low NOx Combustion Technologies and Circulated Fluidized Bed (CFB) boilers for the conditions suitable to China.

5.2 鼓励具有自主知识产权的烟气脱硝技术、脱硫脱硝协同控制技术以及氮氧化物资源化利用技术的研发和应用。

5.2 Encourage R&D development and application of flue gas deNOx technologies that have independent intellectual property rights, simultaneous deSOx and deNOx control technologies, and NOx product / byproduct resource utilization.

5.3 鼓励低成本高性能催化剂原料、新型催化剂和失效催化剂的再生与安全处置技术的开发和应用。

5.3 Encourage development and application of low-cost, high-performance catalyst materials, new catalysts, and deactivated catalyst regeneration and safe disposal technologies.

5.4 鼓励开发具有自主知识产权的在线连续监测装置。

5.4 Encourage the development of proprietary on-line continuous monitoring devices.

5.5 鼓励适合于烟气脱硝的工业尿素的研究和开发。

5.5 Encourage new R&D and development using industrial grade urea for flue gas deNO<sub>x</sub> processes.

## 6 运行管理 **Operations Management**

6.1 燃煤电厂应采用低氮燃烧优化运行技术，以充分发挥低氮燃烧装置的功能。

6.1 Coal-fired power plants should employ optimized operational Low NO<sub>x</sub> Combustion Technologies so to provide the best function of Low NO<sub>x</sub> Combustion devices.

6.2 烟气脱硝设施应与发电主设备纳入同步管理，并设置专人维护管理，并对相关人员进行定期培训。

6.2 Flue gas deNO<sub>x</sub> facilities shall have integrated management as the main power generating equipment, and to provide specific manpower for its maintenance and management and routine trainings to relevant personnel.

6.3 建立、健全烟气脱硝设施的运行检修规程和台账等日常管理制度，并根据工艺要求定期对各类设备、电气、自控仪表等进行检修维护，确保设施稳定可靠地运行。

6.3 On a regular basis, establish and improve operations of flue gas deNO<sub>x</sub> facilities, such as routine maintenance procedures and ledger management system. Provide routine checks on various equipment, electrical lines, control meters, etc. so the inspection and maintenance can ascertain that the deNO<sub>x</sub> facilities are operating stably and reliably.

6.4 燃煤电厂应按照《火电厂烟气排放连续监测技术规范》（HJ/T75）装配氮氧化物在线连续监测装置，采取必要的质量保证措施，确保监测数据的完整和准确，并与环保行政主管部门的管理信息系统联网，对运行数据、记录等相关资料至少保存 3 年。

6.4 Coal-fired power plant should be equipped with Continuous NO<sub>x</sub> Emission Monitors (CEMs) in accordance with the 《Technical Specifications for Fossil-fired Power Plant Flue Gas Continuous Emission Monitoring》 (HJ/T75) .

The CEMs should have necessary quality assurances so to ensure the integrity and accuracy of monitored data, and should be connected with the information system of environmental protection administrative department, and to store the relevant operation data and records for a minimum of three years.

6.5 采用液氨作为还原剂时，应根据《危险化学品安全管理条例》的规定编制本单位事故应急救援预案，配备应急救援人员和必要的应急救援器材、设备，并定期组织演练。

6.5 When using anhydrous ammonia as the reducing agent, the operating unit should base on 《Hazardous Chemical Safety Management Regulations》 to provide necessary emergency rescue preparatory plan, emergency rescue crew, and the necessary emergency rescue devices, equipment, and regularly conduct hazardous prevention drills.

6.6 电厂对失效且不可再生的催化剂应严格按照国家危险废物处理处置的相关规定进行管理。

6.6 Power plant should strictly follow pertinent national hazardous waste treatment and disposal provisions for the management of deactivated and non-renewable spent catalyst.

## **7 监督管理 Supervision**

7.1 烟气脱硝设施不得随意停止运行。由于紧急事故或故障造成脱硝设施停运，电厂应立即向当地环境保护行政主管部门报告。

7.1 One may not stop operating the flue gas deNOx facilities at will. In the event that the deNOx facility is shut down due to an emergency or malfunction, the power plant should immediately report to the local environmental protection administrative department.

7.2 各级环境保护行政主管部门应加强对氮氧化物减排设施运行和日常管理制执行情况的定期检查和监督，电厂应提供烟气脱硝设施的运行和管理情况，包括监测仪器的运行和校验情况等资料。

7.2 The environmental protection administration departments at various levels should strengthen periodical inspection and supervision of the NOx emission control facilities in daily management and implementation status report. The plant should provide the operation and management information reports on the deNOx facilities, including data related to monitoring the instrument operation and calibration condition.

7.3 电厂所在地的环境保护行政主管部门应定期对烟气脱硝设施的排放和投运情况进行监测和监管。

7.3 The local environmental protection administrative department where the power plant is located shall periodically monitor the flue gas deNOx emissions and supervise the deNOx facility's operations.