

This Form 6-K consists of:

An announcement on acquisition of A Shares in Huaneng Power International, Inc. (the “Registrant”) by its controlling shareholder, made by the Registrant on January 4, 2011.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the under-signed, thereunto duly authorized.

HUANENG POWER INTERNATIONAL, INC.

By: /s/ Gu Biquan

Name: Gu Biquan
Title: Company Secretary

Date: January 4, 2011

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Announcement regarding the acquisition of
A Shares in Huaneng Power International, Inc.
by its controlling shareholder

This announcement is issued pursuant to Rules 13.09(1) and (2) of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited.

On 31 December 2010, Huaneng Power International, Inc. (the "Company") received a notification from the Company's controlling shareholder, China Huaneng Group ("Huaneng Group") that Huaneng Capital Services Company Limited ("Huaneng Capital"), a wholly-owned subsidiary of Huaneng Group, has on 31 December 2010 through the trading system at the Shanghai Stock Exchange acquired certain domestic listed ordinary shares in RMB ("A Shares") of the Company, details of which are as follows:

Huaneng Capital has on 31 December 2010 through the trading system at the Shanghai Stock Exchange acquired 12,876,654 A Shares of the Company (the "Initial Share Increase"), representing 0.09% of the total issued share capital of the Company. Prior to the Initial Share Increase, Huaneng Group directly and indirectly controls 7,141,786,667 shares in the Company, representing approximately 50.81% of the total issued share capital of the Company. After the Initial Share Increase, Huaneng Group directly and indirectly controls 7,154,663,321 share of the Company, representing approximately 50.90% of the total issued share capital of the Company.

Based on its own needs and the market conditions, Huaneng Group proposes to continue the acquisition of the A Shares of the Company in the secondary market through Huaneng Capital or other concerted party(ies) or in its own name within the next twelve months (starting from 31

December 2010). The aggregate of such acquisition will not exceed 2% (inclusive of the shares acquired this time) of the issued share capital of the Company. Huaneng Group covenants that Huaneng Group (including the concerted party(ies) which has/have held the Company' shares) will not reduce the shares held by them during the implementation period for such acquisition in shares.

By Order of the Board
Huaneng Power International, Inc.
Gu Biquan
Company Secretary

As at the date of this announcement, the directors of the Company are:

Cao Peixi (Executive Director)	Liu Jipeng (Independent Non-executive Director)
Huang Long (Non-executive Director)	Yu Ning (Independent Non-executive Director)
Wu Dawei (Non-executive Director)	Shao Shiwei (Independent Non-executive Director)
Huang Jian (Non-executive Director)	Zheng Jianchao (Independent Non-executive Director)
Liu Guoyue (Executive Director)	Wu Liansheng (Independent Non-executive Director)
Fan Xiaxia (Executive Director)	
Shan Qunying (Non-executive Director)	
Xu Zujian (Non-executive Director)	
Huang Mingyuan (Non-executive Director)	
Liu Shuyuan (Non-executive Director)	

Beijing, the PRC
4 January 2011
