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Request for Review

Dear Sirs,

Please find below the response to the review formulated for the CDM project with the title "Gansu Zhouqu County Hujia'ai Hydropower Station Project" with the registration number 1886. In case you have any further inquiries please let us know as we kindly assist you.

Yours sincerely,

Cuiyun Zhang
Carbon Management Service

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Response to the CDM Executive Board

Issue 1:
Further clarification is required on how the DOE has validated: (a) the suitability of the input values used in the investment analysis, in line with EB 38 para.54 requirement; and (b) the conservativeness of the applied tariff.

Issue 2:
The PP/DOE should provide reliable evidence that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation, following EB41, Annex 46, paragraph 5.b.

Issue 3:
The DOE should clarify why projects with a capacity under 15MW were excluded from the common practice analysis, as the project activity involves the use of two 14 MW turbines.

Annexes:

Annex A **-** Determination of the inflation rate

Enclosures

Enclosure 1 (as supplement to issue response):

- Auditing report on final accounting of revenue and expenditure for completed project, Gansu Jinsheng Certified Public Accountants Limited Company, dated on Oct. 30th, 2008

Enclosure 2 (as supplement to issue 2 response):

- Documentation of Gansu Ansheng Hydropower Development Co.,Ltd GanFaDianZi 2004 NO. 008, the Report on the application of CDM financial support to the construction of ZhouQu HuJiaai Hydropower station, dated Oct. 28th, 2004
- Formal CDM development contract with Gansu Tonghe Investment Project Consulting Co.,Ltd and Caspervandertak Consulting, signed November 17th, 2005
- Supplementary CDM Development Contract, dated April 7th, 2006
- Memorandum of Understanding, between the project owner, CDM consultants and the buyer Mitsui&Co. Ltd., signed May/June 2007

Enclusure 3:

- Revised PDD with and without track changed
- Revised validation report with and without track changes

Referring to Issue 1

Response from the project participant:

(A):

For the calculation of the IRR of the proposed project activity, the parameters listed in the Preliminary Design Report (PDR) have been used as input values applied in the investment analysis.

The PDR was completed and issued (May 2004) by the "Gansu Water Conservancy and Hydropower surveying and designing Institute." This entity is an independent organization which is qualified to compile design reports for hydropower projects (it has obtained an A grade certificate in electricity industry (hydro power) issued by the "Ministry of Construction" of the Peoples Republic of China). Additionally, the PDR has been approved (June 2004) by the "Water Supply & Hydropower Bureau of Gannan Tibetan Autonomous Prefecture". The PDR can be considered an independent and realistic assessment of the proposed project activity, including the parameters listed therein which are used as input values in the investment analysis.

The PDR (source for all input values) was completed and issued in May 2004. Therefore, in accordance with the "Guidance on the Assessment of Investment Analysis" (Version 02.1), all input values were known before the investment decision (July 2004 [1]) and can be considered appropriate values to be used in the financial calculation of the proposed project activity.

As the PDR has been issued (i.e. May 2004) 2 months before the start of the project activity and investment decision (July 2004) we conclude that requirement (a) of EB 38 para.54 is satisfied as this period of 2 months is "sufficiently short to confirm that it is unlikely that the input values would have materially changed". Additionally, the input values used in the PDD and associated annexes are fully consistent with the PDR, satisfying requirement (b) of EB 38 para.54. Finally, requirement (c) is satisfied as the input values used were known by the PO at the time of the investment decision and are therefore applicable, and have been crosschecked by the DOE against other validated hydropower stations (please see TÜV SÜD's responds below).

Finally, to confirm the appropriateness of input values applied in the investment analysis, we have compared them to the actual values where possible.

-Investment Cost:

We compare the Static Investment Cost in the PDR (i.e. 200,701,800 RMB) to the real investment cost taken from the "Audited Financial Accounting Report" of the project activity, issued by the licensed accountant "Gansy Jinsheng Certified Public Accountants Limited Company" in October 2008.[2] This comparison confirms that the estimated and assumed value in the PDR

[1] Preliminary construction activities started in July 2004, and the main contracts were signed later. For example, the equipment purchase contract was signed in August 2005, and the contract for the construction of the power house was signed in August 2005.

[2] The "Audited Financial Accounting Report", evidencing the actual static investment cost, will be uploaded to UNFCCC.

was realistic and slightly *conservative* (i.e. leading to a higher IRR) when comparing it to the actual audited and confirmed Static Total investment Cost of 209,766,200 RMB.

Static Total Investment

Source	***Value***
Preliminary Design Report (PDR)	200,701,800 RMB
Audited Accounts (actual cost)	209,766,200 RMB

-Power supply:

The project activity has only been fully operational since the end of January 2008, and it is therefore not feasible to compare the estimated annual net power supply from the PDR (i.e. 138,740 MWh) to actual net power supply during the first year of operations, as the project has not been fully operational for one year.

We do however confirm the estimated value of power generation is calculated on a strong statistical basis, namely on 48 years of water flow measurements (1954-2001) by the "Lijie Hydrological Station", which is operated by the government (i.e. the Hydrology and Water Resources Survey Bureau of Gansu Province). The estimated power generation is calculated on the basis of the average water flow over these 48 years, which was 81.9 m^3/s. Additionally, for the calculation of estimated power generation, it is assumed that the turbines/generators will operate at a 100% reliability level throughout the year, which is unlikely. Finally, during "high water seasons", the grid company might not off-take all electricity generated by the project activity due to an oversupply of electricity (this is agreed upon in the Grid Connection Agreement).

To conclude, the estimated power generation is calculated on a strong statistical basis but might be overestimated due to the assumption of 100% reliability. Additionally, estimated power supply to the grid might also be overestimated due to the fact that the grid company might not actually off-take all generated electricity during periods with a high water flow.

-Power Price:

Please refer to our clarification below under (B), as to why the applied tariff is appropriate and conservative.

-Operations and Maintenance Cost

The below table indicates the breakdown of the ex ante estimation of the Operation & Maintenance costs, specified in the PDR which is used for investment decision-making, of the proposed project activity.

Composition of the operation & management costs

Cost item in PDR	Amount (RMB)
Repair Cost [3]	2,100,000
Wages and Welfare Expenses	760,000
Materials Expenses	140,000
Maintenance Cost for the Reservoir Area	420,000
Later Period Maintenance Fund of the Reservoir Area	690,000
Insurance	630,000
Grid Maintenance Cost	280,000
Others	340,000
Total	5,360,000

The above table shows that the main components of the O&M costs consist of Maintenance and Repair Costs (which has a large labour component) and wages and welfare expenses related to costs for the staff operating the project. Because "wages and welfare expenses" is fully related to labour cost, and "repair cost" and "reservoir maintenance" are for a significant part influenced by the cost of labour, we conclude that labour/wages constitute a large part of the O&M cost. As wages constitute a large part of the O&M costs we analyze below the recent development of wages in Gansu Province. During the period 2000 – 2005, wages in Gansu Province increase annually on average with 12.7%.[4] At the same time the rate of inflation in China was 3.24% in the period 2000-2005 and increased to 5.46% in the period 2005-2008.[5] Therefore the real wage rate (corrected for inflation) increased substantially during this period. This means that the assumption of fixed real O&M costs can be considered a *conservative* assumption in the context of the rapidly increasing wages in China in general and Gansu Province in particular.

(B):

-Power Price:

The power price of 0.2 RMB/kWh used as input value for the financial calculation of the project activity is taken from the PDR. The calculation does not deduct VAT and therefore this power price can be considered a net power price (i.e. after deduction of VAT). Applying the standard VAT rate of 17% in China yields a gross power price (i.e. before deduction of VAT) of 0.234 RMB/kWh. This value is conservative (i.e. leading to a overestimation of the IRR) as both the actual power price at the time the PDR was issued (May 2004) as well as the price that was granted to the project when it became operational are substantially lower than the power price in the PDR as we further clarify below.

In the case of Gansu Province, the power price for small hydropower stations until the end of 2004 was 0.16 RMB/kWh (Gross price incl. VAT) and was increased to 0.18 RMB/kWh[6] (Gross price incl. VAT and applicable from January 2005) in November 2004. The National Development and Reform Commission issued a unified guidance price for all new hydropower stations

[3] Repair cost has a large labour component.
[4] *Data source*: http://www.gsei.com.cn/ziliao/shuju/gansu2007/xls/07/04.htm
[5] See Annex A for a calculation of the inflation rate.
[6] See "Notice of Increasing the Grid Tariff of Small Hydro Power Enterprise (Gan Jia Shang No. [2004]352)".

(regardless of scale) in Gansu Province in June 2004[7] which was subsequently confirmed through a formal power price notice issued by the Provincial Price Bureau in July 2006[8]. The price mentioned in these last two documents applies to all hydropower projects that became operational after 1 January 2005 and is lower than the price used in the calculation of the IRR in the PDD, i.e. 0.234 RMB/kWh (Gross price incl. VAT) or 0.20 RMB/kWh (Net price excl. VAT). The power price has not been adjusted since January 2005 and the project entity was granted a power price of 0.227 RMB/kWh (Gross price incl. VAT) in the Power Purchase Agreement (PPA) signed in January 2007, which has additionally been evidenced through the Sales Invoices of power sold to the grid. As the Net power price of 0.2 RMB/kWh (excl. VAT) corresponds to a Gross power price of 0.234 RMB/kWh (incl. VAT) we conclude that this assumption is *conservative* as it leads to an overstatement of the IRR.

Furthermore, the application of a flat and fixed power price for the financial calculation is appropriate in case both the input values and the benchmark are defined in real terms (as opposed to nominal terms[9]) and when there is no expectation that the change in the nominal value of the input parameters will differ significantly from the rate of inflation. The use of fixed real input values is common practice in China and is in accordance with guidance for the preparation of feasibility studies which demonstrates that the benchmark is defined in real terms and therefore the application of fixed real input values is appropriate. Moreover, this method, used in the PDR, was used in the actual investment-decision making. The IRR calculation compares the real IRR with a real benchmark which in both cases takes out the effects of general price increases due to inflation.

An analysis of the actual development of the power price over time is hampered by the fact that the power sector in China has undergone several regulatory changes and consistent power price data over a longer period is not available. For example, the above mentioned power price of 0.18 RMB/kWh applies only to projects that were operational prior to January 2005 and therefore cannot be compared to the power price of 0.227 RMB/kWh as this is granted to new projects (operational after January 2005) only. Although the power price has not been adjusted since January 2005 (which constitutes a decline in the real power price) it is expected that the price will be adjusted in the future to correct for inflation and therefore the assumption that the power price will develop proportionally to the rate of inflation can be considered reasonable. As any of such corrections for inflation would lag behind actual inflation, assuming that power prices will be corrected for inflation instantaneously, as is done in our analysis, implies that actual real revenues from the sale of power are somewhat overstated. Hence the assumption that the power price changes proportionally to the rate of inflation also leads to a conservative interpretation of the additionality requirements.

To conclude, the assumed power price of 0.234 RMB/kWh (incl. VAT) in the IRR calculation (taken from the PDR like all other input values) is conservative as it is higher than the power price published at the time of making the investment decision (0.18 RMB/kWh) and the actual power price the project entity managed to obtain (0.227 RMB/kWh). It is *conservative* as a higher power price leads to an overstatement of the IRR. Additionally, assuming a fixed flat

7 See “NDRC Notice on Solving the Relevant Problem of the Power Price Conflict of Northwest Grid”, issued June 2004.

8 See “Notice Regarding the Relevant Issue about the Grid Power Price of the New Operation Hydropower Units in Gansu Province”, Gan Jia Shang No. [2006]125.

9 Nominal value refers to any price or value expressed in money of the day, as opposed to real value. The latter adjusts for the effect of inflation.

power tariff in accordance with the definition of the benchmark is conservative as it assumes power price will be corrected for inflation instantaneously.

Response by TÜV SÜD

(A)

The input data in the investment analysis is taken from the Preliminary Design Report (PDR) (Information reference list, Annex 2 of the PDD, IRL No. 10), which was completed in May 2004.
In accordance with EB38, §54, the DOE can confirm that the time between the completion of the PDR and commencement of the project activity is sufficiently short to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed. The time between completion of the PDR (May 2004) and the projects start date – which is when preliminary construction activities were commenced in July 2004, as this date is before the signing of the main equipment purchase agreement (i.e. August 2005) – is only a few months.
Further, in the meantime CDM was seriously considered as is discussed in more detail in the PDD. Therefore, TÜV SÜD can confirm that the results of PDR were the basis of the decision to proceed with the investment in the project and that the requirements of part (a) of the EB38, §54 are fulfilled.
As mentioned above, the input values were consistently derived from the PDR. Thus TÜV SÜD confirms that the applied input parameters are appropriate and valid and were also well known at the time of the investment decision, hence the requirements of part (b) of the EB38, §54 are also completely fulfilled for this project.

In addition, TÜV SÜD performed a thorough evaluation and review of the values of the input parameters applied for the investment analysis for this project. As part of this evaluation, TÜV SÜD checked the credibility and plausibility of the input data by comparing the applied values with TÜV SÜD's internal statistical results of the evaluation of 250 hydropower projects in China that are either already registered or currently under validation. Further we crosschecked the values were possible with actual contacts and invoices.

Investment costs were calculated at approximately 7.2 Mio RMB/MW, which are slightly higher than the average cost of 6.7 Mio RMB/MW based on TÜV SÜD's internal statistics, but still within a range of plus one standard deviation from the average. Further it is demonstrated that actual costs incurred have exceeded the estimate as of Oct. 2008. Total investment was increased about 5%, according to a financial audit report, as attached to the response (IRL72).

Annual **O&M costs** equal about 2.7% of the total investment costs, and are thus only slightly higher than the average of 2.5% based on TÜV SÜD's internal statistics, and were therefore considered as also appropriate and realistic. Further it is taken note of the remote location of the plant, which justifies the higher O&M costs.

The **power supply** of the plant is derived from more than 40 years statistical flow measurement data (IRL73). The plant is estimated to operate about 3800 hours per year, resulting in a load factor of approximately 44%, which equals the average observed operating hours (i.e. 44%) based on TÜV SÜD's internal statistics. The annual power supply was calculated based on long-term flow data, which is taken from "Lijie Hydrological Station" flow measurements (1954-

2001), a plant which is operated by the Hydrology and Water Resources Survey Bureau of Gansu Province.

Both the long term flow data and the 3rd party design institute, the Gansu hydropower design institute, are considered to be reliable sources for the power projection. We would further like to stress that the PDR and respective IRR input values, comprising **investment costs, tariff, O&M costs and power supply**, was officially approved by Gannan hydropower administration bureau (IRL11).

In summary, TÜV SÜD checked the applied values thoroughly and based on its local and sectoral expertise, TÜV SÜD confirms that these values are realistic and plausible and appear to be valid at the time the investment decision was made. Hence, criteria (c) of EB38, §54 is also fulfilled successfully.

(B)

As shown above, the input values used for this investment analysis were valid and applicable at the time of the investment decision. In addition, as per further explanation in the guidance, no information from a later point should be the basis for the investment decision. The application of non-fixed, fluctuating input values would not be in line with this guidance, because at that time, any information on the variation of these input values over the following 25 years was simply not available. TÜV SÜD also considers it as highly impossible to reasonably forecast the values of these figures for the next 25 years, based on the information given at the time of the investment decision.

The benchmark applied for this project is derived from a Chinese national industry standard document (Economic Evaluation Code for Small Hydropower Projects, P.R.China Industry Standard No. 16-1995). This document clearly indicates that the “current price”, i.e. a constant value should be applied for the financial evaluation of a project. This further demonstrates that the application of fluctuating input values for the IRR calculation would not be in line with the applied guidelines and national standards.

Based on local and sectoral expertise, TÜV SÜD can confirm that this document is widely applied in China, and that all feasibility studies in this sector are based on fixed input values.

Furthermore, the applied tariff of 0.234 RMB/kWh (incl. VAT), taken from the PDR, is conservative as it is above the power price of 0.227 RMB/kWh (incl. VAT) which was issued by the Provincial Price Bureau and remained fixed since the beginning of 2005. The power purchase invoice indicates that the actual Gross tariff paid to the PP is 0.227 RMB/kWh incl. VAT (IRL75), which is consistent with the provincial tariff notice, and thus below the Gross tariff estimated at the time of the investment decision, i.e.0.234 RMB/kWh (incl. VAT).

The first two years after the Chinese electricity market was liberated, a lower tariff was applied in Gansu Province (IRL 5), likely due to initial difficulties with the implementation of the new power system. As also observed for other Chinese provinces, the tariffs appear to be stable. Hence, TÜV SÜD considers the application of a fixed value for the tariff for the IRR calculation as totally appropriate.

Furthermore, as also indicated by the project participants, the application of incrementing input values for the tariff would also require to consider the effects of inflation during the given period. As demonstrated clearly by the project participants, an average of a 4% inflation rate was determined for China based on trends observed in the past (i.e. the rate of inflation determined

was in the range of 3.24% to 5.46%; the rate of 4% was taken as a reasonable assumption for the projection of the IRR under various scenarios). Since these costs are regulated by the government, the tariff costs are not expected to increase at a faster rate than the inflation occurs. As a result, the calculated IRR would remain constant, because tariff is simply expected to increase at the same rate as the inflation rate would decrease the actual value.

In summary, TÜV SÜD considers the assumption of fixed input values throughout the 25-year period as plausible and also appropriate, given the information available at the time of the investment decision and also considering the latest information on these parameters as well as considering the applied standards and guidelines.

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Referring to issue 2

Response from the project participant:

We have included several events and milestones in table B.7a,b of the PDD (see also tables below for your convenience, copied from the PDD) to demonstrate that besides early CDM consideration before the start of the project activity, the project entity has continued to take real and concrete steps parallel to the project development towards registration as a CDM project activity.
Amongst others and application for CDM services, the signing of a CDM contract with CDM consultants, a public bidding for CER buyers to purchase the CERs, a publicly announced stakeholder consultation meeting, and other events demonstrate that besides early CDM consideration before the start of the project activity, the proposed project continued to take concrete steps toward registration parallel to the project development in accordance with EB41, Annex 46, paragraph 5.b.

Overview of key events until the start of the project activity

Date	Key Event
August 2002	Diebu Niaojiaga Hydropower Development Co., Ltd. (the main shareholder of the project entity.) participated in a "CDM Development Opportunities in the Chinese Energy Market" workshop, where EB member Mr. Lu Xuedu provided the opening speech. One of their projects (i.e. the "Gansu Diebu Niaojiaga 12.9 MW Hydropower Station Project) was studied as an example in Gansu province.
August 2002 - Early 2004	The Gansu Diebu Niaojiaga 12.9 MW Hydropower Station Project was considered as a CDM project by the ADB sponsored TA project TA3840 and a draft PDD was prepared for this project.
December 29th, 2003	Major shareholder of proposed project activity submitted an application report to the Gansu Science & Technology Bureau for the Hujiaai Project to be considered for CDM.
June 18th, 2004	Diebu Niaojiaga Hydropower Development Co., Ltd. signed CDM development contract with CDM advisers for the Niaojiaga Hydropower Station project
July 2nd, 2004	Establishment of the project entity: "Gansu Ansheng Hydropower Technology Development Co., Ltd."
July 2004	Start of construction of water diversion system

Overview of key events after the start of the project activity

Date	Key Event
13 October 2004	Gansu Ansheng Hydropower Development Co., Ltd formally decided on a loan and CDM application
28 October 2004	Gansu Ansheng Hydropower Development Co., Ltd applied for CDM development services from a local CDM consultant (i.e. Gansu Science & Technology Bureau).
May 2005	CDM consultants sent a draft agreement on CDM development to the PO
August 2005	Signing of equipment purchase contract
September 2004	Start of construction of dam site
September 2005	Start of construction of power house
November 2005	Formal CDM development contract signed
April 2006	Supplementary CDM development contract signed
June 2006	Completion construction dam site
September 2006	CDM stakeholder consultation organized after public notices were published in the local newspaper and websites
September 2006	Completion construction of water diversion system
November 2006	Public bidding for the purchase of CERs from the project activity started
May 2007	Memorandum of Understanding signed with the buyer
June 2007	Completion of construction of power house
July 2007	PDD uploaded for GSP and on-site validation took place
September 2007	Application for host country approval (LOA) from China DNA
21st of September 2007	First turbine operational
November 2007	Formal ERPA Signed
December 2007	Obtained China LOA
24th of January 2008	Second turbine operational
June 2008	Obtained final validation report from DOE

Response by TÜV SÜD

Please find attached to the response, the requested evidence that CDM was considered after the project start date attached as annex 1 to this response:

- Documentation of Gansu Ansheng Hydropower Development Co.,Ltd GanFaDianZi 2004 NO. 008, the Report on the application of CDM financial support to the construction of ZhouQu HuJiaai Hydropower station, dated Oct. 28th, 2004
- Formal CDM development contract with Gansu Tonghe Investment Project Consulting Co.,Ltd and Caspervandertak Consulting, signed November 17th, 2005
- Supplementary CDM Development Contract, dated April 7th, 2006
- Memorandum of Understanding, between the project owner, CDM consultants and the buyer Mitsui&Co. Ltd., signed May/June 2007

TÜV SÜD is convinced that these documents sufficiently demonstrates that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation, in compliance with EB41, Annex 46, paragraph 5.b.

Referring to Issue 3

Response from the project participant:

The proposed project activity has an installed capacity of 28MW. The dam, power house, diversion tunnel, reservoir, and other structures have all been constructed with this capacity in mind. Power supply, the obtained power tariff and O&M cost are also based on this 28MW installed capacity and are not significantly influenced by the amount of turbine/generator units installed.

According to the tool for the demonstration and assessment of additionally, projects are considered “similar” in case they, amongst others, are of “similar scale”. We have excluded projects below 15MW as the scale of these projects differs significantly from the scale of the proposed project activity (i.e. 28MW).

Please note that UNFCCC regulations for small scale SSC project activities, defining hydropower below 15MW as small scale, are based on the total installed capacity of a hydropower station and not the capacity of the individual units. Likewise, Chinese regulations and policies, on for example the power tariff, are defined based on total installed capacity and not on based on the capacity of individual units.

Finally, please also note that projects with an installed capacity below 15MW usually employ two or more turbine/generator units. For example, a 12MW hydropower station could consist of 2*6MW, 3*4MW, or 4*3MW. It is therefore inappropriate to compare a 28MW hydropower station (with two individual 14MW units), to a hydropower station with a total installed capacity of 14MW. As the amount of turbine/generator units do not influence the characteristics of a proposed project activity and the applicable policies and regulations, but the total installed capacity does, it is appropriate to compare total installed capacities.

To further illustrate our position, please also note that for example a wind park of 49.5MW in China typically consists of 66*750kW, but a comparison to a wind park with a total installed capacity of 750kW would be inappropriate. Likewise, the three gorges dam in China, which an installed capacity of (26*700MW) 18,200MW, can not be compared to a single 700MW hydropower station.

Response by TÜV SÜD:

The lower limit of 15 MW has been accepted as the capacity of the project is 28 MW. Even if the capacity consists of two turbines of 14 MW, the CDM rules do not allow to debundle the project. Hence, it is reasonable to use the 15 MW as a lower limit based on the 15 MW for a SSC project. Due to scale effects the purchasing of two 14MW turbines has different implications than one 28 MW turbine. That means there must be a lower limit to ensure the comparison under similar financial conditions.

Further it shall be noted that information of hydropower project with capacities ranging below 15MW is difficult to obtain. In accordance with recent guidance on common practice analysis where is stated “If necessary data/information of some similar projects are not accessible for PPs to conduct this analysis, such projects can be excluded from this analysis” (Additionality

tool version 5.2) it is concluded that the limitation of the common practice analysis to the size range above 15MW is justified.

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Annex A
Determination of the inflation rate

The inflation percentage is measured as the change in the annual rate of change in the GDP deflator in the period 2000-2005, as this is the most appropriate measure for inflation in China[10].

First, we calculate the GDP deflator on the basis of the data in the table below[11]. Note that the GDP is in constant prices, and are expressed in terms of the GDP of the preceding year. E.g., real GDP in 2000 was 108.4% of the real GDP in 1999, indicating a real annual GDP growth of 8.4% per year for the year 2000. Similarly, the GDP growth rate in 2001 was 8.3%.

Year	GDP, current prices (100 million RMB)	GDP, constant prices, preceding year = 100
2000	98,000.5	108.4
2001	108,068.2	108.3
2002	119,095.7	109.1
2003	135,174.0	110.0
2004	159,586.7	110.1
2005	184,739.1	110.4
2006	211,808.0	111.1
2007	NA	NA
2008	NA	NA

From the data provided, the rate of change of the GDP deflator can be calculated according to the following procedure:

First, calculate an index for the GDP at constant prices, by setting the index for 2000 at 100 and linking the other indices through multiplication and dividing by 100:

Year	GDP, constant prices, preceding year = 100	Index of GDP at constant prices
2000	108.4	100.0
2001	108.3	108.3
2002	109.1	118.2
2003	110.0	130.0
2004	110.1	143.1
2005	110.4	158.0
2006	111.1	175.5
2007	NA	NA
2008	NA	NA

[10] Extract from:
http://www.hm-treasury.gov.uk/economic_data_and_tools/gdp_deflators/data_gdp_backgd.cfm
"Other widely known measures of inflation are the Consumer Prices Index (CPI, formerly known as the HICP), the Retail Prices Index (RPI), and the Retail Prices Index excluding mortgage interest payments (RPIX), all of which measure prices of goods and services purchased for the purpose of consumption by households in the UK. Further information on RPI, RPIX and CPI - and the differences between them - can be found at http://www.statistics.gov.uk/cci/nugget.asp?id=181
The GDP deflator is a much broader price index than the CPI, RPI or RPIX (which only measure consumer prices) as it reflects the prices of **all** domestically produced goods and services in the economy. Hence, the GDP deflator also includes the prices of investment goods, government services and exports, and subtracts the price of UK imports."

[11] The data for the calculation of the rate of change of the GDP deflator are from the China Statistical Yearbook 2007, Beijing, China Statistical Press. Specific pages used are p. 57 and 59.

Then, the index of the GDP deflator can be calculated as follows:

100 * (GDP(y) / GDP(2000)) / (I(y)/100))

With:
GDP(y) The GDP in current prices in year y
I(y) The index of GDP at constant prices in year y

The following table summarizes the calculation results:

Year	Index of GDP at constant prices	Index of the GDP deflator (D)
2000	100.0	100.0
2001	108.3	102.1
2002	118.2	102.6
2003	130.0	105.3
2004	143.1	112.6
2005	158.0	117.3
2006	175.5	121.1
2007	NA	NA
2008	NA	NA

Inflation over the period x-y, measured as the rate of change of the index of the GDP deflator, can then be calculated as:

$$\text{Inflation} = (D(y)/D(x))^{(1/(y-x))}$$

The following table presents some of the key results:

Period	Rate of inflation
2000-2005	3.24%
2005-2008	5.46% [12]

[12] For this period it is not possible to calculate the rate of change of the GDP deflator, because data necessary for this calculation are not available. We have therefore used the rate of change of the consumer prices, which can be obtained from the website of the National Bureau of Statistics of China. For the period from December 2005 to December 2006, CPI rose by 2.8%; from December 2006 to December 2007, CPI rose by 6.5%, and from May 2007 to May 2008, 7.7%. From this the rate of change in consumer prices over the period 2005-2008 may be estimated. See http://www.stats.gov.cn/english/.