Shareholders conference summary of Kaiyuan Electric Power Co., Ltd of Jiulong County
Seminar about consideration of CDM and planning the construction of Shanshuping Fourth Stage hydropower station project

Date: 14:00-16:00, 13th Mar.2006
Add.: conference room in the 3rd floor of Xintonghui Restaurant in Chengdu City

Participants:
Kaiyuan Electric Power Co., Ltd of Jiulong County: Yan Guanghui (CEO)
Sichuan Qingyuan Engineering & Consulting Co., Ltd: Chen Qingbo (Chief Engineer)
Representatives of shareholders of Kaiyuan Electric Power Co., Ltd of Jiulong County: Liu Xingchun, Zhan Guoqiang, Liu Qiyong, and Yuan Zhijun etc.
Advanced budgetary estimation engineer: Li Ping
Electricity transmission and transformation engineer: Cai Jiang

The conference theme: Kaiyuan Electric Power Co., Ltd of Jiulong County held conference about planning the construction of Shanshuping Fourth Stage hydropower station CDM project. According to "The supplementary explanation of the preliminary design of Yangfanggou Shanshuping Fourth Stage Hydropower Station" received from Sichuan Qingyuan Engineering & Consulting Co., Ltd on 12th Mar., and "the approval about the connection of cascade hydropower station in the main stream of Jiulong River to the power system" by Sichuan Electric Power Corporation (Chuandianji[2006]No.5), the conference discussed the investment of electricity transmission and transformation and the economic situation of the project such as expected tariff and annual operation hours in the PDR optimistic, ensured whether the Shanshuping Power Station should apply and develop CDM alike the nearby Yidaoqiao power station, and started the planning of construction of Shanshuping Fourth Stage Hydropower Station.

The conference aim: according to the factors set in the "The supplementary explanation of the preliminary design of Yangfanggou Shanshuping Fourth Stage Hydropower Station", the investment of electricity transmission and transformation is relatively high, and the investment is high but the revenues is not so good. The economic benefit is poor which cannot reach the benchmark standard. Therefore, the shareholders discussed the corresponding solution during the conference.

The conference content: Yan Guanghui CEO introduced the preparation work till now: since Nov. 2005 when the preliminary design and exploration work was commissioned to Qingyuan Corporation, through exploration and design coordination, the draft of "preliminary design report" was finished by the end of Feb. 2006 by Qingyuan Corporation, and the final edition was finished in the early of this month (Mar.2006). Meanwhile, the "Preliminary Design Report" of the power station did not consider the investment of electricity transmission and transformation, following the economic evaluation of normal power stations. Since our power station is a small scale one with poor regulation capability, far-away location, and long transmission distance, and

due to the requirement by State Power Grid that the investment of electricity transmission for connecting with electric system should be undertaken by the project owner, our company will individually undertake the investment of electricity transmission project. In the approval of grid-in apply of power plants, Sichuan Electric Corporation required power station developer to undertake the investment of electricity transmission and transformation. Due to this, Qingyuan Corporation finished the supplementary explanation of the preliminary design of Yangfanggou Shanshuping Fourth Stage Hydropower Station on 10th Mar 2006, based on the initial Preliminary Design Report. According to the supplementary explanation, we have to undertake relatively high investment, and the IRR of the power station will be lower than benchmark. Thus we need to find out solutions to overcome the difficulties.

Subsequently, Cai Jiang, the electricity transmission and transformation engineer of Qingyuan Corporation introduced briefly the electricity transmission and transformation project of Shanshuping Power Station. According to the estimation, the transmission line of the project is about 40km from Shanshuping to Yidaoqiao. Since the inconvenient transportation, a lot of poles and materials need to be transmitted by man. And the materials are expensive. The estimated investment is about 10 million yuan.

Li Ping, advanced budgetary estimation engineer of Qingyuan Corporation, introduced that the economic evaluation of the power station project usually include the main body the power station only. But due to the requirement by State Power Grid that the investment of electricity transmission for connecting with electric system should be undertaken by the project owner, Kaiyuan Electric Co., Ltd will undertake the investment and construction of electricity transmission and transformation of Shanshuping Fourth Stage Power Station, and has to compile the individual Preliminary Design Report of electricity transmission and transformation of the Power Station. For Shanshuping Fourth Stage Power Station, the project owner needs to undertake the investment, construction and management of the transmission line. Thus the total investment including the electricity transmission part will be increased. Therefore, we considered the investment of electricity transmission and transformation part in the "The supplementary explanation of the preliminary design of Yangfanggou Shanshuping Fourth Stage Hydropower Station" based on the initial Preliminary Design Report. Under this situation, the economic benefit of the power station is very poor and the IRR is lower than benchmark. We hope the project owner could pay attention to this.

Chen Qingbo, the Chief Engineer of Sichuan Qingyuan Engineering & Consulting Co., Ltd, introduced that the Yidaoqiao Power Station that Sichuan Qingyuan Engineering & Consulting Co., Ltd designed has the similar difficulties, including far-away project location, poor developing condition, and lower economic benefit. Due to this, Yidaoqiao Power Station signed CDM development agreement with Tsinghua University. It was said that the project is developing CDM application documents recently. You can refer to Yidaoqiao Hydropower Station for CDM application.

Finally, Yan Guanghui CEO expressed that it is worth to learn from Yidaoqiao Hydropower Station for CDM application, otherwise it is hard to continue our project. Our corporation will arrange special staff for CDM issues and contact with the Consult, such as Tsinghua

University, to know the detailed information of the buyer. He also said that the work should be done as soon as possible, all entities of the project should be integrated again after some time, and the application should be done immediately when environmental impact assessment and other approvals are ready. Based on the above mentioned work, the planning of the construction of Shanshuping Fourth Stage hydropower station should be rapidly started, including inquiring the price of turbine generators and so on.

13th Mar. 2006

九龙县开源电力有限公司股东会

杉树坪四级水电站项目筹建会议纪要

时　间：2006 年 3 月 13 日 14:00～16:00

地　点：成都市新通惠宾馆 3F 会议室

参加人员：

九龙县开源电力有限公司董事长兼总经理　鄢光辉

九龙县开源电力有限公司股东代表 刘兴春 詹国强 刘期勇 袁志君 等

四川省清源工程咨询有限公司总工程师　陈清波

概预算专业高级工程师　李　平

送变电专业工程师　　蔡　江

会议主题：九龙县开源电力有限公司召开杉树坪四级水电站筹建会议。根据 3 月 12 日接到的设计单位——四川省清源工程咨询有限公司提交的"羊房沟杉树坪四级水电站初步设计编制补充说明"，以及省电力公司（国家电网公司四川省公司）关于电站接入电力系统的送出工程投资、建设由业主承担的文件（川电计[2006]5 号），讨论项目的送变电投资情况和项目经济性情况，确定是否借鉴邻近水电站——一道桥水电站实施 CDM 开发的路子，开发杉树坪四级水电站 CDM 项目，启动杉树坪四级水电站的筹建工作。

会议目的：根据"羊房沟杉树坪四级水电站初步设计编制补充说明"，项目承担的送变电投资较大，经济效益不好，达不到基准水平，各股东一起开会讨论如何解决。

会议内容：

董事长兼总经理鄢光辉介绍了杉树坪四级水电站项目的准备情况：自2005年11月委托清源公司开展杉树坪四级水电站勘测设计工作以来，经过多次的查勘和设计协调会，清源公司于2月底完成了《初步设计报告》初稿，本月初完成了最终稿。本电站《初步设计报告》中按照常规电站的经济评价办法，没有考虑电站送变电工程的投资部分。由于我们的电站小，调节性能差，位置边远，送电距离长，和鉴于国家电网对电源点（电站）接入电力系统的送出线路投资由电站开发商自主承担的常规性要求，我公司将独立承担电站送出工程的投资。四川省电力公司在对九龙县若干个电源点上网申请的批复中也要求各电站开发商把送变电工程的建设、投资承担起来。鉴于这种情况，清源公司在杉树坪四级水电站《初步设计报告》基础上，于本月10号完成了关于杉树坪四级水电站《初步设计报告》编制的补充说明。根据该补充说明，我们实际承担的投资较大，经济性较差，电站内部收益率低于10%，希望我们一起想办法克服困难。

随后，清源公司送变电工程专业的设计人员蔡江工程师介绍了杉树坪送变电工程的简要情况。根据测算，项目的送电线路为从杉树坪到一道桥的近40公里的路程，由于山高路陡和交通不便，很多地方电线杆塔材料等需要人工搬运，材料也比较耗费，大致估算的送变电投资近1000万元左右。

清源公司概预算专业高级工程师李平介绍到，在做电站项目的经济评价分析时，一般只对电站项目本体进行经济评价。但由于国家电网公司对独立电源点接入系统线路由电站开发商投资、建设的具体要求，开源电力有限公司将承担杉树坪四级水电站送变电工程的投资与建设，并需要对电站送出工程单独编制初步设计报告。对于杉树坪四

级水电站来讲，业主需承担几十公里送电线路的投资、建设和管理，从而增加整个项目，包括发电工程和送电工程在内的总投资额度。因此，我们在"羊房沟杉树坪四级水电站初步设计编制补充说明"里，在原《初步设计报告》的基础上，我们考虑了送变电工程的投资。在这种情况下，电站项目的经济效益水平将大大降低，且低于《初步设计报告》里所测算的内部收益率 10%。我们希望业主重视这件事情。

四川省清源工程咨询有限公司总工程师陈清波介绍到，我们设计的一道桥水电站面临和杉树坪四级水电站一样的问题，项目边远、开发条件不太好、效益也较差。一道桥水电站方面鉴于这种情况，在今年年初与清华大学签订了 CDM 开发协议。据说，最近该项目正在开发 CDM 申报文件，前些天还找我们设计院提供过设计报告，你们也可以借鉴一道桥水电站开发 CDM 项目的做法。

最后，公司董事长兼总经理鄢光辉表示，一道桥水电站的开发 CDM 项目的做法值得借鉴，不然我们这么小的项目更难往下运作。公司安排具体的工作人员负责 CDM 相关事宜，抓紧接触下像清华大学等这样的咨询方，还有了解下买家的情况，尽快把这件事情做起来，并嘱咐过段时间把项目的各个方面集中起来再仔细的捉摸一下这件事情，等环评报告和各个批件一到位，抓紧申报。

在做好以上工作的基础上，杉树坪四级水电站的筹建工作应抓紧进行，尽快开展电站水轮发电机组的询价等工作。

二〇〇六年三月十二日