PERFORMANCE AUDIT REPORT

ON

NEELUM JHELUM HYDROPOWER PROJECT MUZAFFARABAD

AUDIT YEAR 2016-17

AUDITOR GENERAL OF PAKISTAN

PREFACE

Articles 169 and 170 of the Constitution of the Islamic Republic of Pakistan, 1973 read with Sections 8 and 12 of the Auditor General's (Functions, Powers, Terms and Conditions of Service) Ordinance, 2001 require the Auditor General of Pakistan to conduct audit of Expenditure and Receipts of Government of Pakistan.

This Report is based on performance audit to examine the economy, efficiency and effectiveness aspects of Neelum Jhelum Hydropower Project, Muzaffarabad for the period from December 31, 1989 to June 30, 2016. The Directorate General of Audit WAPDA conducted the performance audit of the Neelum Jhelum Hydropower Project, Muzaffarabad during December, 2016 with a view to reporting significant findings to the relevant stakeholders. In addition, Audit also assessed, on the test check basis whether the management complied with applicable laws, rules and regulations in managing the Neelum Jhelum Hydropower Project, Muzaffarabad.

Audit findings indicate the need for taking specific actions to realize the objectives of the Neelum Jhelum Hydropower Project, Muzaffarabad besides instituting and strengthening internal controls to avoid recurrence of violations and irregularities.

Audit observations have been finalized in the light of discussion in the Departmental Accounts Committee (DAC) meeting.

The Audit Report is submitted to the President in pursuance of the Article 171 of the Constitution of the Islamic Republic of Pakistan, 1973 for causing it to be laid before the both Houses of Majlis-e-Shoora [Parliament].

Sd/-

Dated: 09 JUL 2018
Islamabad

Javaid Jehangir
Auditor General of Pakistan

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Abbreviations and Acronyms

ADP	Annual Development Programme
BoD	Board of Directors
CDWP	Central Development Working Party
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CGGC	China Gezhouba Water and Power (Group) Co. Ltd
CMEC	China Machinery Engineering Corporation
CPM	Critical Path Method
CDL	Cash Development Loan
DAC	Departmental Accounts Committee
D&B	Drill & Blast
EAD	Economic Affair Division
ECC	Economic Coordination Committee
ECNEC	Executive Committee of the National Economic Council
EOT	Extension of Time
EXIM Bank	Export and Import Bank of China
FEC	Foreign Exchange Component
GBR	Geotechnical Baseline Report
HEP	Hydro Electric Power
IDB	Islamic Development Bank
IRP	Inspection Report Para
IWT	Indus Water Treaty
KFD	Kuwait Fund for Development
KHEP	Kishanganga Hydro Electric Power Project
LAC	Land Acquisition Collector
MOU	Memorandum of Understanding
MOWP	Ministry of Water and Power
NEC	National Economic Council
NJC	Neelum Jhelum Consultants
NJHP	Neelum Jhelum Hydropower Project
NTDC	National Transmission and Despatch Company
OFID	OPEC fund for International Development
OPEC	Organization of the Petroleum Exporting Countries
PSDP	Public Sector Development Programme

SFD	Saudi Fund for Development
TBM	Tunnel Boring Machine
TOR	Terms of reference
TST	Tunnel Seismic Tomography
VO	Variation Order

EXECUTIVE SUMMARY

Directorate General Audit WAPDA conducted Performance Audit of Neelum Jhelum Hydro Power Project, Muzaffarabad in December, 2016. The main objectives of the audit were to evaluate the economy, efficiency and effectiveness of the project. The audit was conducted in accordance with International Organization of Supreme Audit Institutions (INTOSAI) standard.

Neelum Jhelum Hydropower Project was initially started as Neelum Jhelum Kohala Hydel Complex by WAPDA in 1983. During first phase, Neelum river was to be diverted to the upper limb of the Jhelum river through 20 km long tunnel to generate 500 MW hydropower and in second phase, water course of both Neelum and Jhelum rivers was to be diverted through 10 km tunnel to the lower limb of Jhelum to generate further 1,000 MW electricity. Pre-feasibility study of the Neelum Jhelum Kohala Hydel Complex was completed in 1987 by WAPDA and first PC-I was approved for Rs. 15.253 billion by ECNEC during 1989. However, project activities could not be started due to non availability of funds.

Later on, detailed engineering, designing and tender documents were completed by M/s Norconsult, in October 1997 as an alternate to the original WAPDA scheme, based on a single project of Neelum Jhelum Hydropower Project of 969 MW instead of 500 MW. On the basis of new design, a revised PC-I was approved by ECNEC in 2002 for Rs. 84 billion. However, project activities could not be started up till 2005. During the year 2005 a devastating earthquake hit the project site, which necessitated change in design of the project but the same was not done. Later on, a contract was awarded to the M/s CGGC-CMEC Consortium in March, 2007 based on the pre-earthquake design with completion in October 2015. The Project Consultants comprising Joint venture of five (5) International and National firms namely Neelum Jhelum Consultants (NJC) were engaged in May, 2008 to review the design after earthquake and to supervise the construction activities of the project. At that stage no financing for the project was available. The Contractor could not start project activities due to non availability of land and electricity. During the year 2010 concept of two Tunnel Boring Machines (TBMs) was introduced instead of conventional Drill &

Blast (D&B) method to cover the lost time. Now once again a 2nd revised PC-I was approved by ECNEC in July 2013 by increasing the amount up to Rs. 272 billion with extension in completion period up to November, 2016. Even then the project could not be completed with the new technology of TBM and the financial close of the project remained unachieved up till now. During 2015 a 3rd revised PC-I was approved for Rs. 404 billion with the same completion date of November, 2016 but the project still could not be completed up till December, 2016.

At present the project is still in construction phase with 87% physical progress and 65.31% financial progress up to November, 2016. The main reasons behind non-completion of project included non-achievement of financial close, delay in land acquisition, delay in adequate power supply, frequent major design changes, non- finalization of detailed design engineering and frequent issuance of variation orders. The NJHP is an example of mismanaged project having huge cost and time overrun. Now as per revised schedule the latest completion date of the project is fixed on February 01, 2018, which also seems uncertain.

a) Key Audit Findings

1. Unjustified abnormal cost overrun of Rs. 389 billion and time overrun of 21 years. (Para No. 4.7.1)
2. Loss due to non-achievement of envisaged financial benefits of Rs. 236.93 billion. (Para No. 4.7.2)
3. Non arrangement of funds for the project and Non-release of Rs. 144.70 billion out of PSDP allocation. (Para No. 4.1.1)
4. Irregular / unjustified award of construction contract of Rs. 90.90 billion before the appointment of consultants. (Para No. 4.2.2)
5. Non obtaining of performance guarantees resulting into suspension of foreign loans and delay of the project - Rs. 48.80 billion. (Para No. 4.6.1)
6. Loss of revenue amounting to Rs. 30 billion and unjustified claim of Rs. 175.06 million on fatal incident of rock burst. (Para No. 4.1.9)

7. Unjustified and uneconomical deployment of Tunnel Boring Machine resulting into non- achievement of envisaged benefits - Rs. 23.15 billion. (Para No. 4.3.1)

8. Poor performance of the consultants of NJHP engaged at a cost of Rs.16 billion. (Para No. 4.2.4)

9. Non-recovery of liquidated damages amounting to Rs. 9.90 billion from the Contractor. (Para No. 4.2.5)

10. Annual recurrent loss of Rs. 5.15 billion due to losing of water rights on the western river under Indus Basin Treaty (Kishanganga case). (Para No. 4.5.4)

11. Extra burden of Rs. 380 million due to unjustified use of 27 vehicles at Project office by NJHP and recurring expenditure on account of rented vehicles amounting to Rs. 2.80 million per month. (Para No. 4.4.2)

12. Loss of Rs. 110.48 million due to compensation on account of delayed payment of IPCs. (Para No. 4.1.10)

b) Recommendations

1. Changes in design and specifications should be avoided after these have been finalized except where such changes are of critical importance.

2. Funds should be arranged before the commencement of project in the shape of financial close so that loss due to late payment charges could be avoided.

3. Project should be implemented as per approved PC-I as per guidelines issued by the Planning Commission for the development of project.

4. Completion of transmission line should be ensured before the completion of the project.

5. Responsibility should be fixed in order to avoid ensuing loss of water usage rights by Pakistan in arbitration issues at the Court of International Arbitration.

6. Other Projects which are required to be completed in the light of Indus Basin Treaty should be identified and completed as soon as possible to avoid any further loss to the Nation.
7. The Mini Hydro Power Plant of 48 MW should be completed through VO in order to avoid new tendering and to cover some of the loss sustained by losing Kishanganga case.
8. Serious efforts should be taken to complete the project on war footings to avoid further cost and time overrun.
9. The Consultant should take timely and appropriate actions to discourage any delays and claims from the Contractor. Employers should also intensively monitor the activities of consultants.

1. INTRODUCTION

Neelum Jhelum Hydroelectric Power Project is located in District Muzaffarabad, the State of Azad Jammu and Kashmir. NJHP is a run of the river hydroelectric power project of 969 MW. The Project was designed to divert Neelum water through tunnels at Nauseri about 41 km upstream of Muzaffarabad and out falling in Jhelum River Chatter Kalas in Muzaffarabad, where the powerhouse will be located.

The main objective of this hydropower development project is to provide adequate facilities for the generation of electric energy to mitigate the acute power shortage and future requirements of industrial, agricultural and economic development of country, particularly in areas of Azad Jammu and Kashmir. The importance of project increases as it is being constructed on an early riser river and would replace expensive thermal power generation during April to June.

The whole of the project consist of single contract, construction of civil engineering works along with design, supply and installation of hydraulic steel, mechanical and electrical works divided into Lots C1, C2, C3 and Lot E1, M1, H1. The original PC-I of the project was approved by the Executive Committee of National Economic Council (ECNEC) on December 31, 1989 at a total cost of Rs. 15,253 million with foreign exchange component of Rs. 7,324.71 million. 1st revised PC-I was approved by ECNEC on February 28, 2002 at a total cost of Rs. 84,502.26 million with FEC of Rs. 4,666.7 million. The 2nd revised PC-I was approved by ECNEC on July 03, 2013 at a total cost of Rs. 274,882 million with FEC of Rs. 158,367 million and 3rd revision of PC-I was approved by ECNEC on December 19, 2015 at a total cost of Rs. 404,321 million with FEC of Rs. 179,342.6 million.

1.1 Project Components

1.1.1 Engineering Design Work

A detailed engineering design was prepared by the M/s Norconsult Int, A.S. in association with Norplan of Norway in 1997 as per seismic parameters established before earthquake of October, 2005. Severe earthquake of 2005 necessitated revision of the detailed engineering design. Later on, Neelum Jhelum Consultants a Joint venture comprising MWH International USA, Norplan, Nespak, ACE and NDC were hired on May 08, 2008 for review of the detailed design and supervision of all civil works, supply, erecting, commissioning, testing of hydraulic steel works, electrical and mechanical works of the project.

1.1.2 Civil Works

Civil works were comprised diversion of dam, river diversion tunnel, intake & sedimentation basins, head race tunnel, surge chamber, power station complex, tail race tunnel and outlet structure.

1.1.3 Electrical Works

Electrical works consisted of installation of generators, transformers, control & protection systems, external power distributions and powerhouse auxiliary equipments.

1.1.4 Mechanical Works

Mechanical works were planned for installation of turbines, governors, inlet valves, cranes, cooling & fire water equipment, tunnel and power station drainage equipment, dewatering equipment, and workshop equipment.

1.1.5 Hydraulic Steel Equipment

Installation of Hydraulic Steel Equipment consisted on radial gates with hydraulic system, flap gates with hydraulic system, diversion dam stop log, gantry crane and bridge crane, intake gates and trash racks, under sluicing gates, sediment basin outlet gates, audit bulk heads, draft tube bonneted gates and tail race outlet gates.

1.1.6 Civic Facilities

Civic facilities comprised provision of Site Roads, Water Supply, Sewer, Surface Drainage, Electricity Communication System, Operation Building, Diesel Generator Building, Store, Vehicle Service Station, Residential Colony, Office Building, Dispensary and First Aid Facility, Recreation Facility and School.

1.2 Project objectives

The prime objective of Neelum Jhelum Hydropower Project was to generate cheap hydel power of 969 MW to cope with the ever increasing power shortage. Secondary objectives were to provide employment opportunities and socio-economic uplift.

2. AUDIT OBJECTIVES

The main objectives of the performance audit were:

- To assess the economy, efficiency and effectiveness of the project
- To examine whether the awarding of contracts were on merit and successfully executed
- To review the payments made to the Consultants were in accordance with the provisions of the Consultancy agreement and that the Consultants fulfilled their obligations successfully
- To evaluate cost and time over-run of the project
- To evaluate whether the internal controls were operative and functioning effectively

3. AUDIT SCOPE AND METHODOLOGY

Audit period to be covered for performance audit was from approval of original PC-I i.e. December 31, 1989 to June 30, 2016. During this period, total expenditure of Rs. 275.76 billion had been charged to the project as on June 30, 2016. The auditable record was available in the offices of Chief Executive Officer, Project Director, General Manager Contract, Chief Financial Officer of NJHP. Audit activity was started with the preparation of Preliminary Survey Report (PSR).

Following audit methodology was adopted during the course of execution of performance audit:

- Interview and discussion with the project management
- Review of Original PC-I of the project up to 3rd Revised PC-I
- Review of Contract Agreements
- Review of Consultancy Agreement
- Review of Bid Evaluation Reports
- Examination of Progress Reports of the project
- Site visits
- Examination of selected project records and necessary auditable documents

4. AUDIT FINDINGS AND RECOMMENDATIONS

4.1 Financial Management

4.1.1 Non release of funds out of PSDP allocation – Rs. 144.70 billion

According to Public Sector Development Programme 2006 to 2016, allocation of the project was Rs. 144.70 billion.

During the performance audit of NJHP, it came to notice that against the PSDP allocation of Rs. 144.70 billion, not a single penny was released to the project.

Non-adherence to the Public Sector Development Programme resulted in non-release of funds of Rs. 144.70 billion out of PSDP allocation.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that only Rs. 20.77 billion had so far been released by the Government as bridge financing.

The DAC in its meeting held on May 08, 2017 directed the management to ensure PSDP releases to the project when announced by Planning Commission under intimation to Audit. Further progress was not reported till finalization of report.

Audit recommends that the management needs to fix responsibility for non-adherence to Public Sector Development Programme besides implementing DAC's directives. (IRP No.4.1.6)

4.1.2 Non arrangement of funds resulting into non achievement of financial closure of NJHP project – Rs. 71.29 billion

According to manual of development projects, the financial closure (arrangement of funds) of a project be achieved before tendering for execution.

During the performance audit of NJHP, it came to notice that the financial closure of the project could not be achieved up till December, 2016. First PC-I was prepared in 1989 and was revised in 2002 in which NJHP project was included in five years plan by taking on top priority being strategic. Later on PC-I was revised again in 2012 and 2015. This time the project was included in Midterm Development Project but again funds could not be arranged up till now. While approving the 2nd revised PC-I, ECNEC had directed to Economic Affair Division (EAD) to arrange the funds, which was also not done yet (Annex-4). Currently there was a deficit of Rs. 71.29 billion.

Non-adherence to the instruction of Planning Commission resulted in non-achievement of financial closure of NJHP project.

The matter was taken up with the management in December, 2016 and reported to the Ministry in February, 2017. The management replied that recently with the approval of additional financing of US$ 576 million by Exim Bank China, a tentative financial close of the project was likely to achieve. The reply was not convincing as it was a complete miss-planned and miss-managed project. If the financial close of the project was achieved earlier as per Manual of Planning Commission, the Contractor could have been held responsible for delay.

The DAC in its meeting held on May 08, 2017 satisfied with the management's point of view however directed the management to submit revised /comprehensive reply to Audit within a week. Further progress was not reported till finalization of report.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding non-achievement of financial closure besides implementing DAC's directives. (IRP No.4.2.6)

4.1.3 Loss due to delay in engagement of foreign consultants in violation of original PC-I – Rs. 69 billion

As per Original PC-I Proforma of Neelum Jhelum HEP was approved by ECNEC, in its meeting held on 31.12.1989, for an amount of Rs. 15.012 billion, to be completed in 90 months and preliminary works, project planning and detailed engineering design including tender documents were to be taken up through foreign consultants with the assistance of local counterpart staff.

During the performance audit of NJHP, it came to notice that the agreement for making feasibility and detailed design of the project was signed with M/s Norconsult on November 23, 1994 with a delay of five years. The total project completion period was for 90 months (7.5 years) whereas it took five years to engage the Consultants only, whereas as per manual of development it should be done in 6 months from the project approval. Further it was also evident that financial grant from French was also offered during the visit of French president to Pakistan in 1989 but no such further efforts were evident from EAD.

Non-adherence to the instructions contained in Original PC-I resulted in delay in engagement of foreign consultants resulted into loss of Rs. 69 billion in the shape of increased PC-I cost from Rs. 15 billion (1989) to Rs. 84 billion (2002).

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that even after approval of PC-I (2002) funds were not available and the construction of the Project was uncertain. The reply was not convincing as it was the responsibility of the sponsoring agency to arrange the funds.

The DAC in its meeting held on May 08, 2017 directed the management to ensure availability of funds before the preparation of PC-I, and completion of all aspects before the commencement of projects.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding loss caused by delayed engagement of Consultants besides implementing DAC's directives. (IRP No.4.1.2)

4.1.4 Unjustified imposition of Neelum Jhelum surcharge due to inefficiency of the Management / GOP – Rs. 44.18 billion

According to the Judgment of Honourable Lahore High Court – ICA NO. 1068/2014- dated May 29, 2015. The Surcharges namely; EQ Surcharge, DS Surcharge, UOF Surcharge and NJ Surcharge levied from time to time since 2008 through impugned Notifications are, therefore, declared as unconstitutional and hence set-aside.

During the performance audit of NJHP, it came to notice that due to non availability of funds for the project, GoP imposed Neelum Jhelum Surcharge in 2008 @ 10 paisa per KWh through the electricity bills on the general public up till December 2015 and notification of such imposition was issued by NEPRA in 2014. Since imposition of the NJ surcharge, an amount of Rs. 44.18 billion had been received up till Dec 2016. The imposition of the Neelum Jhelum Surcharge was declared as unconstitutional by the Honourable Lahore High Court on May 29, 2015. Later on, an appeal was filed in Supreme Court by Ministry of Water and Power and the decision of the Lahore High Court was suspended by the Apex Court and adjourned the hearing for the indefinite period of time.

Poor financial management resulted in unjustified imposition of Neelum Jhelum surcharge due to inefficiency of the Management / GOP.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that presently the case was sub-judice, therefore, management could not comment on the constitutionality or otherwise of the Neelum Jhelum Surcharge.

The DAC in its meeting held on May 08, 2017 pended the para till the decision of Supreme Court on the issue.

Audit recommends implementation of DAC's directives. (IRP No.4.1.7)

4.1.5 Non-implementation of the directions of Honourable Prime Minister for releasing of funds for the project – Rs. 3 billion per month

The Honourable Prime Minister of Pakistan visited the Neelum Jhelum

Hydro Electric Power Project on June 19, 2013 and decided to install / operational first unit (242 MW) by December 31, 2015 and solved the major issue of finance by giving direction for release of Rs. 3 billion per month to Neelum Jhelum Hydropower Project (NJHP).

During the performance audit of NJHP, it came to notice that a best effort plan was made to achieve the completion time limit for the 1st unit by December 31, 2015 as desired by the Honourable Prime Minister of Pakistan. The best effort plan could not be implemented due to not releasing Rs. 3 billion per month as directed by the Honourable Prime Minister of Pakistan. Resultantly, not only the project was delayed by 02 years but the country was also deprived of 5.02 billion units of cheap electricity per annum.

Non-implementation of Honourable Prime Minister's orders resulted in non-releasing of Rs. 3.00 billion per month to the project.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that the management of NJHPC continuously followed the relevant quarters for monthly release of Rs. 3 billion committed by the Prime Minister of Pakistan.

The DAC in its meeting held on May 08, 2017 directed the management to get the efforts made for committed amount of Rs. 3 billion verified from Audit within a week. Further progress was not reported till finalization of report.

Audit recommends that the management needs to expedite provision of record regarding efforts made for getting committed amount in compliance to DAC's directives. (IRP No.4.1.16)

4.1.6 Non-recovery of "on account payment" due to non-submission of final account – Rs. 1,428.80 million

According to Clause-53.3 of Part-I Condition of the Contractor "within 28 days, or such other reasonable time as may be agreed by the Engineer of giving notice under Sub-Clause 53.1, the Contractor shall send to the Engineer 'on account' giving detailed particulars of the amount claimed and the grounds upon which the claim is based. In case where interim accounts are sent to the

Engineer, the Contractor shall send a final account within 28 days of the end of the effects resulting from the event. The Contractor shall, if required by the Engineer so to do, copy to the Employer all accounts sent to the Engineer pursuant to this sub-clause."

During the performance audit of NJHP, it came to notice that a payment of Rs. 1,428.80 million was released "On account payment" against the Extension of Time (EoT) claim No. I-T (Annex-3). The payment made to the Contractor was contrary to above clauses as the claim was not processed / finalized in line with the Contract clauses. This fact had also been admitted by the Employer through correspondence exchanged with the Engineer asking for recovery of "On account payment" made to the Contractor beyond the provision of Contract clause as stated above.

Non-adherence to the Contractual provisions resulted in non-recovery of irregular payment amounting to Rs. 1,428.80 million made to the Contractor.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that the recovery of Rs. 6 million had been made from the Contractor and the balance amount would be recovered from the next IPC.

The DAC in its meeting held on May 08, 2017 directed the management to get the record of recovery verified form Audit within a week and expedite the recovery of balance amount under intimation to Audit. Further progress was not reported till finalization of report.

Audit recommends the management to investigate the matter for fixing responsibility regarding irregular payment made to the contractor besides implementing DAC's directives. (IRP No.4.1.13)

4.1.7 Irregular release of funds without agreement between Govt. of Pakistan, Govt of AJ&K & WAPDA on account of "mitigation measures" – Rs. 1,163 million

According to revised PC-1 2012, an amount of Rs. 2,271 million against mitigation measures was required to be incurred under a tri-partite agreement between Govt. of Pakistan, Govt. AJ & K and WAPDA.

During the performance audit of NJHP, it came to notice that an amount of Rs. 1,163 million was released to Govt. of AJ & K on account of mitigation measures without tri-partite agreement among Govt. of Pakistan, Govt. of AJ & K and WAPDA. Further the adjustment of these funds was also not provided by the Govt. of AJ & K.

Non-adherence to the revised PC-I resulted into irregular payment of Rs. 1,163 million to Government of AJ & K.

The matter was taken up with the management in December, 2016 and reported to the Ministry in February, 2017. The management replied that the funds were released to the Govt. of AJ & K in the light of allocation in PC-1 and Tripartite Agreement was about to be finalized by MoW & P shortly. The reply was not convincing as the agreement was the basic requirement, in absence of the same, payments could not be termed as regular merely on the basis of provision of PC-I. Further the adjustment account needed to be obtained from the Govt. of AJ & K.

The DAC in its meeting held on May 08, 2017 directed the management that adjustments made so far be got verified from Audit within a week and expedite the remaining adjustments under intimation to Audit.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding irregular release of funds without tripartite agreement besides implementing DAC's directives. (IRP No.4.2.10)

4.1.8 Non-submission of adjustment accounts by LAC – Rs. 419.42 million

According to Para-26 & 28 (Chapter-VI) of WAPDA Act-1958, "complete and accurate books of accounts of all projects/schemes and transactions relating to the Authority shall be maintained to the satisfaction of the Federal Govt., on whose behalf the accounts of the Authority shall be audited every year by the Auditor-General of Pakistan."

During the performance audit of NJHP, it came to notice that an amount of Rs. 1,408 million was transferred to Land Acquisition Commissioner (LAC) Muzaffarabad for the purpose of land acquisition. Out of total amount of Rs. 1,408 million, adjustment accounts of Rs. 988.59 million were received leaving balance of Rs. 419.424 million. Despite elapse of a considerable period, adjustment accounts of Rs. 419. 42 were not received from LAC.

Non-adherence to the WAPDA Act resulted in non-submission of adjustment accounts amounting to Rs. 419.42 million by LAC.

The matter was taken up with the management in December, 2016 and reported to the Ministry in February, 2017. The management replied that there were a number of land acquisition cases and the process of the land acquisition had not yet been completed. The adjustment in this regard was a lengthy process. The reply was not acceptable being not substantiated with documentary evidences.

The DAC in its meeting held on May 08, 2017 directed the management to refer the case to Law and Justice Commission to take up the matter with provinces for better management of land acquisition matters. DAC further directed to give priority of land acquisition matters before commencing a project.

Audit recommends that the management needs to expedite the matter with LAC for submission of adjustment accounts besides implementing DAC's directives. (IRP No.4.2.9)

4.1.9 Loss of revenue amounting to Rs. 30 billion and unjustified claim of Rs. 175.06 million on fatal incident of rock burst

As per contents of Variation Order - 22 the quantities measured as "specified" shall be paid at the prices included in it. No other payment shall be approved and all costs shall be considered as included in the pay items listed. The Contractor has recognized the potential of rock burst conditions and took them in consideration in his method statement.

During the performance audit of NJHP, it was noticed that three (3) Pakistani workers died and fourteen (14) injured in a rock burst incident at NJHP Tunnel on May 31, 2015. TBM was also damaged and work delayed for 7 months. This resulted due to inadequate safety measures in the form of addition support up to 270 degree by the Contractor as pointed out in the report submitted by Director (Logistics) NJHP. It was inferred in the report "some deficiency in safety measures/assessment was there which at the outset appears to be the cause of accident." Instead of claiming compensation for deaths, injuries and delay in work, management paid the Contractor Rs. 175.06 million on account of precautionary and treatment works required due to rock burst. In addition delay in work for seven (7) months caused loss of Rs. 30 billion (Units / year 5.15 billion X 7/12 X Rs. 10 per unit).

Non-adherence to the provisions of Variation Order resulted in loss of revenue amounting to Rs. 30 billion and unjustified claim of Rs. 175.06 million on fatal incident of rock burst.

The matter was taken up with the management in December, 2016 and reported to the Ministry in February, 2017. The management replied that the rock burst was completely unforeseeable and unanticipated, being a force majeure event and it was impossible for any experienced contractor to foresee it. The reply was not acceptable as the Contractor had recognized the potential of such conditions and taken them in considerations in his method statement. The Contractor had not taken complete measures only covering 180 degree of Rock support instead of 270 degree.

The DAC in its meeting held on May 08, 2017 directed the management to consider this point before finalization of EoT. Further progress was not reported till finalization of report.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding unjustified payment of compensation claim to the Contractor besides implementing DAC's directives. (IRP No.4.2.5)

4.1.10 Loss due to compensation on account of delayed payment of IPCs – Rs. 110.48 million

According to Clause-60.10 of the Part-I of the General Conditions of the Contract "the amount due to the contractor under any Interim Payment

Certificate (IPC) issued by the Engineer present this clause, or to any other term of the contract, shall subject to clause 47, be paid by the Employer to the Contractor within 28 days after such IPC has been delivered to the Employer. In the event of the failure of the Employer to make payment within the time stated, the Employer shall pay to the Contractor interest at the rate stated in the appendix to the tender upon all sums, unpaid from the date by which the same should have been paid."

During the performance audit of NJHP, it came to notice that payment of IPCs, duly certified by the Consultants, could not be made to the Contractor due to non-arrangement of funds. Resultantly, Employer had to pay the compensation of Rs. 110.48 million to the Contractor. Had the funds been arranged and payment made to the Contractor timely, loss of Rs. 110.48 million on account of compensation could have been avoided.

Non-adherence to the Contractual provisions resulted in loss of Rs. 110.48 million due to compensation made to Contractor on account of delayed payment of IPCs.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that no payments against delayed charges had been entertained so far due to non-achievement of financial closure of project. However, effort would be made to reduce the amount through negotiation with the Contractor. The reply was not tenable as no justification was given regarding loss caused by delayed payments.

The DAC in its meeting held on May 08, 2017 directed the management to get verify the efforts made according to Contractual obligations to reduce the interest on delayed payments.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding loss of Rs. 110.48 million on account of compensation caused by delay in payments of IPC's besides implementing DAC's directives. (IRP No.4.1.18)

4.2 Procurement and Contract Management

4.2.1 Non-renewal of insurance policies by the contractor – Rs. 315.93 billion

According to the Clause-21.1 of part-I of General Conditions of Contract Agreement, the Contractor shall, without limiting his or the Employer's obligation and responsibilities under Clause 20, Insure: a) The works together with material and plant for incorporation therein, to the full replacement cost, b) An additional sum of 15% of such replacement cost or as may be specified in part II of these conditions to cover any additional cost of incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the works and of removing debris of what so ever nature, c) The Contractor's equipment and other things brought onto the site by the Contractor, for a sum sufficient to provide for their replacement at the site.

During the performance audit of NJHP, it came to notice that two (02) Contractor-All-Risk (CAR) insurance policies amounting to Rs. 315.93 billion covering works of original Contract and additional / varied civil works expired on September 30, 2016 and October 30, 2016 respectively. However, the Contractor failed to provide the Contractor-All-Risk (CAR) Insurance policy valid up to May 18, 2018 with 12 months defect liability period. Keeping in view the National importance and sensitivity of the project, the same was required not to be left uninsured for a single day but no action was taken against the Contractor for renewal of the insurance policies.

Non-adherence to the Contractual provisions resulted in non-renewal Contractor-All-Risk (CAR) insurance policies amounting to Rs. 315.93 billion by the Contractor.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that the CARs had been extended by the contractor up to May 18, 2018 with DLP period of 12 months to be expired on May 18, 2019.

The DAC in its meeting held on May 08, 2017 directed the management to get the stance verified from Audit within a week. Further progress was not reported till finalization of report.

Audit recommends that the management needs to expedite the provision of renewed insurance policies to Audit for verification in compliance to DAC's directives. (IRP No.4.1.10)

4.2.2 Irregular / unjustified award of construction contract before the appointment of consultants – Rs. 90.90 billion

According to Clause-4.20 of the 'Manual for Development Project' regarding Appointment of Consultants, issued by the Planning Commission of Pakistan, the fundamental policy of the Government in the matter of preparation of a development project is to ensure that it is prepared with the utmost care and skill in accordance with the requisite economic, financial and technical standards, and keeping in view the objectives and targets laid down in the five year plan. In case local expertise is not available, foreign experts / consultants can be employed to prepare projects which are technically and economically viable.

During the performance audit of NJHP, it was noticed that a construction contract for Rs. 90.90 billion was awarded to M/s CGGC-CMEC Consortium in December, 2007. Contrary to the above provision of manual the Consultants to the project Neelum Jhelum Consultants (NJC) were appointed in May, 2008 after the award of the construction contract. It was tantamount to putting the cart before the horse. The original design of the project needed to be revised after earth quake of 2005 before award of construction contract. Therefore award of construction contract before finalization of the new design was irregular and unjustified.

Non-adherence to the instructions of Planning Commission resulted in irregular / unjustified award of construction contract amounting to Rs. 90.90 billion before the appointment of Consultants.

The matter was taken up with the management in December, 2016 and reported to the Ministry in February, 2017. The management replied that the process of engaging foreign consultants was difficult as the security situation in the territory after the 9/11 incident had deteriorated. This situation further aggravated due to earthquake of 2005. As the situation became favorable appointment of Consultants was made in 2008 for the design review and supervision of works. The reply was not convincing since due to earth quake of 2005 a fundamental change in design was needed to be approved before the award of construction contract.

The DAC in its meeting held on May 08, 2017 directed the management to submit revised / detailed reply describing the efforts made by the project authorities to hire the consultant duly supported with documentary evidences to Audit within a week. Further progress was not intimated till finalization of report.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding award of contract of Rs. 90.90 billion in absence of consultants besides implementing DAC's directives. (IRP No.4.2.3)

4.2.3 Unjustified increase in the cost of variation orders – Rs. 28.53 billion

According to Clause-7.16 iii(g) of the Manual for Development Project regarding PC-II issued by the Planning Commission of Pakistan "Changes in design and specifications should be avoided after these have been finalized except where such changes are of critical importance".

During the performance audit of NJHP, it came to notice that the variations orders amounting to Rs. 74.18 billion were approved under the 3rd revised PC-I of the Project. Later on, cost of the variation orders was increased by Rs. 23.48 billion due to increase in BOQ items. Moreover, further variation orders amounting to Rs. 5.04 billion were issued in just a year. Increase in the amount of variation orders to the tune of Rs. 28.53 billion over and above the provisions of 3rd revised PC-I was unjustified and evidence of poor planning.

Non-adherence to the instructions of Planning Commission of Pakistan resulted in unjustified increase of Rs. 28.53 billion in the cost of variation orders.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that as an aftermath of devastating Earthquake of October 08, 2005, the Consultants as a part of their assignment reviewed the tender design and undertook additional studies and investigations. The design review identified many areas of concerns requiring design change, which resulted in increased quantities and additional work items with additional financial implication.

The DAC in its meeting held on May 08, 2017 directed the management to give full justifications of variation orders and fix responsibility for the delay of one year for award of consultancy contract. Further progress was not reported till finalization of report.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding increase in the cost of variation orders against the provisions of 3rd revised PC-I besides implementing DAC's directives.

(IRP No.4.1.14)

4.2.4 Poor performance of the consultants of NJHP engaged at a cost of Rs. 16 billion

According to Articles-8 terms in Appendix-A to cost, the scope of services "the main assignment of the Consultants is to supervise the construction of all civil works, supply, erection, summarizing and testing of hydraulic steel works and Electrical and Mechanical works in accordance with the specifications and drawings and to coordinate and manage variation contract lots to ensure timely and success full completion of the project to get the requisites objections. The Consultant shall be vigilant and take timely appropriate action to discourage the claim from the Contractor.

During the performance audit of NJHP, it came to notice that a Consultancy contract was awarded at a cost of Rs. 4.07 billion on May 15, 2008, the amount of the same was increased from 4.07 billion to 16 billion. However, the Consultants failed to carry out comprehensive review of design and specifications due to which major design changes and revisions in construction drawings were made, which was well evident from issuance of 101 variation orders amounting to Rs. 86 billion. Further consultants did not take vigilant and appropriate actions which resulted into claims amounting to Rs. 2.249 billion. Due to this reason not only the project was delayed but the cost of the project also increased with other financial implications.

Non-adherence to the provision of Consultancy agreement resulted in poor performance of the Consultants of NJHP engaged at a cost of Rs. 16 billion.

The matter was taken up with the management in December, 2016 and reported to the Ministry in February, 2017. The management replied that a number of changes in methodologies & design were the result of unpredictable and unprecedented incidents at sites. Hence, there were limited choices available for consultants and consequently certain amendments were made even at later stage, keeping in view durability & safety. All the additional works mentioned by the Audit was the result of this consideration. The reply was not convincing as the design changes and revisions of construction drawings were being inducted up till now as 101 variation orders amounting to Rs. 86,251 million had been issued, which was well evident of the poor performance of the Consultants causing delay in completion of the project and non-achievement of envisaged benefits.

The DAC in its meeting held on May 08, 2017 directed the management to submit revised reply to Audit within a week explaining the practical field problems and efforts made to overcome these problems. Further progress was not reported till finalization of report.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding poor performance of the Consultants besides implementing DAC's directives. (IRP No.4.2.11)

4.2.5 Non-recovery of liquidated damages from the Contractor – Rs. 9.90 billion

According to Clause 47.1 of Part-II B, application of the particular condition of Contract, if the Contractor fails to complete the whole of the works or any section within the stipulated period then the Contractor shall pay to the Employer, the aggregate of liquidated damages payable to the Employer shall be subject to a maximum of 10% of the Contract price.

During the performance audit of NJHP Project, it came to notice that management did not recover liquidated damages Rs. 9.90 billion in a Contract awarded to the Consortium China Gezhouba Water and Power (Group) Co. LTD and CMEC for implementation / Construction of NJHP at a Contract price of Rs. 90.90 billion on December 19, 2007. The work was required to be completed within 93 months up to October 30, 2015 but the contractor could not complete the work within stipulated period. It is worth mentioning that whole project was to be completed till November 30, 2016 as per revised schedule. Again the Contractor could not achieve the milestone up to December, 2016 and even then no action was taken against the Contractor for recovery of LD amounting to Rs. 9.90 billion.

Non-adherence to the Contractual provisions resulted in non-recovery of liquidated damages amounting to Rs. 9.90 billion from the Contractor.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that the Engineer had determined EOT of 428 days and Employer in principle agreed to the major part thereof. Hence, the LD could not be imposed on pending EoT under the contractual obligations. The reply was not tenable as non-decision of EoT claims did not restrain the Employer from recovery of LD under the provisions of Contract agreement.

The DAC in its meeting held on May 08, 2017 directed the management that the EoT claim be finalized if contractor substantiated it as per Contract clauses. Further progress was not reported till finalization of report.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding non-recovery of LD from the Contractor besides implementing DAC's directives. (IRP No.4.1.9)

4.2.6 Loss due to non arrangement of backup power by the Contractor – Rs. 7.45 billion

According to clause SP-13.2.4 special provision Part-E of the contract “the electric power for the construction period will be supplied by the Employer at one central point at each site as indicated on the site plan drawings. Preliminary estimated effect is 15 MW at 11 KV. Backup diesel power is the Contractor’s responsibility, and shall be installed on his judgment for the reliability of the regular supply”.

During the performance audit of NJHP, it came to notice that no arrangements for the backup power supply were made by the Contractor in case of low voltage and load shedding. To the contrary, WAPDA took the responsibility and purchased diesel generators 3 x 4 MW costing Rs. 1,237.18 million along with O&M Cost of Rs. 6,220 million to cater the issue. Besides this, the Employer had made a payment of Rs. 330.27 million to the Contractor as compensation on account of electricity supply for the period January, 2008 to June, 2011 duly certified by the Engineer.

Non-adherence to the contractual provisions resulted in loss of Rs. 7.45 billion due to improper power arrangement at site and undue benefit to the Contractor.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that Procurement of Generators as well as its O&M cost had been approved in revised PC-I 2012 and 2015. The reply was not tenable as arrangement of backup power was the Contractor’s responsibility.

The DAC in its meeting held on May 08, 2017 directed the management to submit revised/comprehensive reply to Audit within a week along with supporting documents justifying the purchase of diesel generators. Further progress was not reported till finalization of report.

Audit recommends the management to investigate the matter for fixing responsibility for unjustifiably taking the responsibility of Contractor besides implementing DAC’s directives. (IRP No.4.1.15)

4.2.7 Loss due to financial implication of extension of time – Rs. 1,217.77 million

According to Clause 44.1 of the Contract agreement, the Engineer shall after due consultation with the Employer and the Contractor, determine the amount of such extension and shall notify the Contractor accordingly with a copy to the Employer. Further, according to ECC's decision dated December 27, 1988 in case No.CEC-542/37/33, "Those responsible for not undertaking forward planning and causing delays in implementation of projects should be taken to task".

During the performance audit of NJHP, it came to notice that the Engineer to the project had considered and recommended 428 days Extension of Time (EoT) to the Contractor which was under approval by the Employer. As a result of Engineer's determination of EOT, the Contractor had submitted claims for delays on the part of the Employer and Engineer.

Project mismanagement resulted in loss of Rs. 1,217.76 million due to financial implication of extension of time (Annex-5).

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that EoT assessed by Consultants for 428 days, was under review by the Employer for finalization / approval. The Contractor's cost claim would be dealt with under the relevant provisions of the Contract.The reply was not convincing as the Employer was responsible for the delays having financial implications amounting to Rs. 1,217.76 million.

The DAC in its meeting held on May 08, 2017 directed the management that the matter of EoT be finalized as per Contract agreement under intimation to Audit. Further progress was not reported till finalization of report.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding delay which caused loss on account of EoT cost claim besides implementing DAC's directives. (IRP No.4.1.8)

4.3 Construction and Works

4.3.1 Unjustified and uneconomical deployment of Tunnel Boring Machine resulting into non achievement of envisaged benefits – Rs. 23.15 billion

According to the minutes of 10^{th} BOD meeting held on January 18, 2011, considering beneficial, it was decided to deploy the TBM at the project site so that the project be completed 2 years earlier (1^{st} unit May 2016) than its expected completion date at a confidence level of 80%.

During the performance audit of NJHP, it came to notice that concept of utilizing the Tunnel Boring Machine (TBM) for excavation of Head Race Tunnel (HRT) was introduced in July, 2009 to cover the delays due to slow mobilization of contractor, non acquisition of land and non availability of power supply. Though the Contractor's initial submission in this regard was rejected by the Engineer yet, in November 2010 after a delay of one year, two possible ways were considered to expedite the project i.e. introducing TBM or increasing the rate of Drill & Blast. It is worth mentioning here that The Consultants and Panel of Experts (PoEs) had favoured an increased production rate by Drill & Blast (D&B) method because of its flexibility of facing challenging geological conditions and expected incidents of Rock bursts. Experts clearly indicated that TBM was the desire of the client and the contractor so to cover up the delay caused by inefficient arrangements made by the contractor. However, decision of deployment of TBM at the cost of 23.15 billion was made by the BoD with dissenting opinion of CFO raising the grave concerns that tendering process initiated by CEO without knowing the Price of Machine and without arrangement of funds etc. The management failed to achieve the targeted completion date up till the date of Audit despite deployment of TBM at a very high cost.

Mismanagement of the project activities resulted in unjustified and uneconomical deployment of Tunnel Boring Machine amounting to Rs. 23.15 billion due to non-achievement required completion date.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that the decision for deploying TBM was quite rational and based on the standard practice followed world over. The reply was not acceptable as the deployment of TBM was just an extra burden on the project just to cover the mismanagement (delay of 2008-10).

The DAC in its meeting held on May 08, 2017 directed the management to reply the re-audit remarks dated March 22, 2017 duly substantiated with documentary evidences within a week. Further progress was not reported till finalization of report.

Audit was of the view that if an option for increasing the Drill and Blast was adopted the project could have been completed much earlier. It is worth mentioning here that only 30% of the total excavation was done with the TBM. If we could do 70% then rest of the 30% could have been excavated with D&B by increasing pace of work (Annex-6). Audit recommends that the management needs to investigate the matter for fixing responsibility regarding deployment of TBM without achieving desired objectives besides implementing DAC's directives. (IRP No.4.1.17)

4.3.2 Loss due to increase in land acquisition cost – Rs. 637.03 million

According to the table 13-K, summary of capital cost of PC-1 2012, an amount of Rs. 770.99 million was approved for the purpose of land acquisition and environmental litigation.

During the performance audit of NJHP, it came to notice that against the provision of Rs. 770.99 million, an amount of Rs. 1,408.02 million was paid on account of land acquisition and environmental mitigation. As per Original PC-I the process of land acquisition should have been started in year 2002 and completed before the commencement of project construction i.e. January 30, 2008. However, the process of land acquisition was started on December 02, 2006 and completed on September 12, 2012. Due to delayed procurement of land, the cost actually incurred on the acquisition of land was increased than the original cost assessed at the time of preparing the original PC-I and NJHP sustained loss of Rs. 637.03 million (Rs. 1,408.02 million - Rs. 770.99 million).

Non-adherence to PC-I-2002 resulted in loss due to increase in land acquisition cost amounting to Rs. 637.03 million.

The matter was taken up with the management in December, 2016 and reported to the Ministry in February, 2017. The management replied that the cost of land acquisition increased because of additional land required for the enhanced scope of work, which was incomparable with allocation of PC-I of 2002 as this was based on an old design. The reply was not acceptable being not substantiated with documentary evidences. Moreover, the process of land acquisition should have been started much before the commencement of project construction.

The DAC in its meeting held on May 08, 2017 directed the management to refer the case to Law and Justice Commission to take up the matter with provinces for better management of land acquisition matters. DAC further directed to give priority of land acquisition matters before commencing a project.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding loss caused by delayed acquisition of land besides implementing DAC's directives. (IRP No.4.2.8)

4.3.3 Loss due to delay on account of acquisition of land and non arrangement of electricity and finance – Rs. 203.58 million

According to Clause-7.5 of the 'Manual for Development Project' regarding fixing responsibility of delay, issued by the Planning Commission of Pakistan "The project implementation agencies / departments should seek the approval of the competent authority as soon as they consider change in the scope of work was imminent. The sponsoring agencies should also anticipate the likely delays for taking remedial actions well in time.

During the performance audit of NJHP, it came to notice that a contract for construction of civil engineering works etc. was awarded to M/s CGGC-CMEC Consortium in December, 2007 and letter of commencement was issued on January 30, 2008 with completion period of 93 months up to October 30, 2015. Due to non-availability of land, electricity and finance, the project was delayed and Contractor had requested for Extension of Time (EoT) with claim of Rs. 2,010.57 million. However, Engineer had certified an amount of Rs. 203.58 million and payment made to the Contractor accordingly. Had the land, electricity and finance been managed in time, loss of Rs. 203.58 million could have been avoided.

Non-adherence to the instructions of Planning Commission resulted in loss of Rs. 203.58 million due to non acquisition of land and non arrangement of electricity and finance.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that the extension in project completion was approved in 2nd and 3rd revised PC-I by ECNEC. EOT and revised contract cost of the project had also been approved by ECNEC. The reply was not tenable as it was the responsibility of WAPDA/ NJHP under the contract to handover the land and provide un-interrupted quality of power supply to the project site for smooth construction of the project.

The DAC in its meeting held on May 08, 2017 directed the management to refer the case to Law and Justice Commission to take up the matter with provinces for better management of land acquisition matters. DAC further directed to give priority of land acquisition matters before commencing a project.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding loss caused by non-arrangement of land, electricity & finance besides implementing DAC's directives.

(IRP No.4.1.3)

4.3.4 Loss on account of rent due to non-completion of residential colonies – Rs. 41.73 million

According to Appendix-A to Tender Special Provisions Clause-5 (i, ii and iii) construction of residential colonies including roads, Part I, II and III under Lot C-1,C-2 & C-3 should be completed in all respects within 12, 81 and 87 months respectively from the commencement date of the project i.e. January 30, 2008.

During the performance audit of NJHP, it came to notice that the residential colonies and office building were required to be completed under Lot C-1, C-2 & C-3 should be completed in all respects within 12, 81 and 87 months up to January 30, 2009, January 30, 2014 & April 01, 2015 respectively. However, the residential colonies and office buildings could not be completed within the stipulated date of completion and Company had acquired rented residential, office buildings in Lahore, Islamabad and Muzaffarabad resulting in to unjustified expenditure in the shape of rent amounting to Rs. 41.73 million.

Non-adherence to the Contractual provisions resulted in loss of Rs. 41.73 million on account of rent due to non-completion of residential colonies.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that completion period of colonies at C1 & C3 was extended due to EOT given to Contractor. The reply was not convincing as the residential colonies could not be constructed during the specified period due to mismanagement on the part of the project Authorities who failed to acquire the land well in time soon after the approval of PC-I.

The DAC in its meeting held on May 08, 2017 directed the management to submit revised / detailed reply supported with documentary evidences to Audit within a week. Further progress was not reported till finalization of report.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding loss on account of payment of rent caused by non-construction of building as per contract agreement besides implementing DAC's directives. (IRP No.4.1.21)

4.3.5 Delay in completion of transmission system for energy dispersal from Neelum Jehlum Hydro Power Project

According to 2nd Revised PC-I of 2012 "laying of the requisite transmission lines should be completed in tandem with the completion of the

Project."

During the performance audit of NJHP, it came to notice that the transmission lines for dispersal of power could not be completed up till December, 2016. There was no coordination between the management of NJHP and National Transmission and Despatch Company (NTDC) for the Transmission of the project.

Non-adherence to the Revised PC-I-2012 resulted in delay in completion of transmission system for energy dispersal from NJHP.

The matter was taken up with the management in December, 2016 and reported to the Ministry in February, 2017. The management replied that the transmission lines related to NTDC and in coordination regularly. The present progress of transmission lines was more than 85%, and it would be completed well before time. The reply was not acceptable being not substantiated with the documentary evidences.

The DAC in its meeting held on May 08, 2017 directed the management to submit detailed reply to Audit within a week in consultation with NTDC along with documentary evidences. Further progress was not reported till finalization of report.

Audit recommends that the management needs to ensure compliance to DAC's directives. (IRP No.4.2.7)

4.4 Assets Management

4.4.1 Non-indemnification of insurance claim of TBM – Rs. 717.60 million

According to Insurance Policies of Atlas Insurance Company No. 2012LBSCPOP00097 and 2012LBSCPOP00098, Tunnel Boarding Machines (TBMs) were insured.

During the performance audit of NJHP, it came to notice that an incident of rock burst at happened on May 31, 2015 claiming lives of three (3) Pakistani workers and leaving fourteen (14) injured, TBM was also damaged badly and work was delayed for seven (07) months. The loss was estimated to an amount of

Rs. 717.60 million (USD 6.9 million). The TBM was insured with Atlas Insurance Company however, the loss could not be indemnified up till the date of audit.

Non-adherence to insurance policy resulted in non-indemnification of insurance claim of TBM amounting to Rs. 717.60 million.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that the insurer had paid US $3.46 million. The process for payment of remaining US $ 2.8 million was underway.

The DAC in its meeting held on May 08, 2017 directed the management to get the indemnified amount of US $3.46 million with all the supporting documents verified from Audit and efforts be made for obtaining the balance amount of US $2.8 million under intimation to audit. Further progress was not reported till finalization of report.

Audit recommends that the management needs to get the indemnified amount verified from Audit besides expediting indemnification of remaining amount in compliance to DAC's directives. (IRP No.4.1.5)

4.4.2 Irregular expenditure of Rs. 380 million due to misuse of 27 vehicles and unjustified recurring expenditure against rented vehicles amounting to Rs. 2.80 million per month

According to 3rd Revised, PC-I of NJHP, 60% of vehicles were allocated for Engineers (NJC) Staff working at different sites of Dam, intake and tunnel sites, at Nauseri C1, Tunnels site near Thortha at C2 and at Power House, Tunnels complex and outlet structure at C3 Chattar Kalas/ Zaminabad. 40% of vehicles were allocated for WAPDA site, Lahore and all three sites and Muzaffarabad, Lahore staff.

During the performance audit of NJHP up to June 2016, it was noticed that 87 field utility vehicles, approved under the 1st Revised PC-I, were purchased for the project's operation sites and management offices at Lahore and Muzaffarabad. Later on, an amount of Rs. 196 million was approved under 2nd revised PC-I for procurement of 18 new vehicles (Annex-7). Moreover, just after

3 years and near to project completion, 25 new vehicles amounting to Rs. 184 million were got approved in 3rd Revised PC-I of 2015 (Annex-8). The addition of 25 new vehicles at the time of near completion was not justified. Now total 130 vehicles were procured for the project. Against 78 vehicles as per provisions of PC-I i.e. 60%, only 51 vehicles were provided to the Consultants and they were using rented vehicles with heavy amount of Rs. 2.80 million per month being charged to the project. On the other hand, rest of 79 vehicles were being used by the NJHP against the approved limit of 52, hence, excess utilization of 27 vehicles was also unjustified.

Project mismanagement resulted in irregular expenditure of Rs. 380 million due to misuse of 27 vehicles at by NJHP and unjustified expenditure on account of rented vehicles by consultants amounting to Rs. 2.8 million per month.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that out of 25 vehicles only 13 were purchased in accordance with the approved PC-I. The reply was not acceptable as no justification was given about the misuse of 27 vehicles by the staff of NJHP and loss on account of rental vehicles by consultants.

The DAC in its meeting held on May 08, 2017 directed the management to submit revised / detailed reply supported with documentary evidence to Audit within a week. Allocation of each vehicle and detail of expenses on each vehicle be also provided to Audit. Further progress was not reported till finalization of report.

Audit recommends the management needs to investigate the matter for fixing responsibility regarding misuse of vehicles by NJHP staff and monthly recurring loss on account of rented vehicles being utilized by consultants besides implementing DAC's directives. (IRP No.4.1.22)

4.5 Monitoring and Evaluation

4.5.1 Non-preparation of PC-II before the approval of PC-I

According to Clause-3.3 & 3.4 of the 'Manual for Development Project' issued by the Planning Commission of Pakistan "It is mandatory to prepare PC-II for undertaking a feasibility study in respect of all major projects. All proposals for consultancy, both local and foreign, for preparation of feasibility studies/ conducting surveys should be drawn up on the PC-II form and got approved from the Competent Authority before undertaking the actual work'.

During the performance audit of NJHP it came to notice that PC-I of the project was approved on December 31, 1989 in absence of PC-II. PC-II being project feasibility report covering all the proposals regarding consultancy services, feasibility studies, surveys of the project was mandatory before the approval of PC-I. But after seven years of the approval of PC-I, a Feasibility Study was conducted by M/s Norconsult, which was finalized in December, 1996 with change of scope of work from 500MW to 969MW.

Non-adherence to the instructions of Planning Commission and non-preparation of PC-II before the approval of PC-I resulted into delay of the project by seven (7) year from 1989 to 1996.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that ECNEC had approved the PC-I without considering the requirement of PC-II and raising any observation relating to the procedure, therefore the process adopted without PC-II stood validated. The reply was not tenable as the approval of PC-I without feasibility study caused significant delay in execution of project with cost as well as time overrun.

The DAC in its meeting held on May 08, 2017 directed the management to prepare PC-II before starting all the projects in future.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding non-preparation of PC-II of NJHP besides ensuring implementation of DAC's directives. (IRP No.4.1.1)

4.5.2 Non-conducting of third party validation resulting in unjustified abnormal increase in the cost of 3rd revised PC I – Rs. 139.15 billion

According to the approval of 3rd Revised PC-I of the Project ECNEC approved the PC-I of the Project at the rationalized cost of Rs. 404,321 million, subject to ensure transparency of the cost estimates and third party validation for the cost estimates, to be carried out within three months as per CDWP's directions dated 29th October, 2015.

During the performance audit of NJHP, it came to notice that CDWP had recommended the 3rd revised PC-I for the approval of ECNEC on carrying out Third party review / validation of the cost of the estimate of the PC-I. Accordingly, ECNEC had approved the 3rd revised PC-I on December 19, 2015 subject to the compliance to CDWP's directions dated October 29, 2015. However, neither the 3rd party validation of the cost estimate of PC-I within the specified period of 3 months carried out nor compliance was made to rationalize the cost of 3rd Revised PC-I.

Non-adherence to the instructions of ECNEC and non-conducting of third party validation resulted in unjustified and abnormal increase in the cost of 3rd revised PC-I by Rs. 139.15 billion (Rs. 274.882 billion to Rs. 404.321 billion).

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that the third party validation had since been conducted by Planning Commission of Pakistan. Moreover, the reasons for increase in cost of 3rd revised PC-I had been fully justified in the 3rd revised PC-I, which had been approved by ECNEC on December 19, 2015.

The DAC in its meeting held on May 08, 2017 directed the management to get the record verified from Audit within one week regarding the stance of 3rd party validation with the direction to submit revised reply to Audit in a week. Further progress was not reported till finalization of report.

Audit recommends that the management needs to implement DAC's directives.

(IRP No.4.1.11 & 4.1.20)

4.5.3 Loss due to delay in completion of project and non-generation of power according to MOU – Rs. 51.5 billion

According to Memorandum of Understanding (MoU) between NJHP / WAPDA and Contractor M/s CGGC-CMEC Consortium regarding deployment of Tunnel Boring Machine (TBM), the Contractor agreed to achieve the following milestones i.e. i) Operation of the 1st Turbine in May, 2016, ii) Operation of the 2nd Turbine in July, 2016, iii) Operation of the 3rd Turbine in August, 2016, iv) Operation of the 4th Turbine in October, 2016.

During the performance audit of NJHP, it came to notice that not a single unit could be generated till audit in December, 2016.

Non-adherence to the provisions of MoU resulted in loss of Rs. 51.5 billion due to delay in completion of project.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. The management replied that the TBM mining operation seriously affected due to the poor geological conditions, rock burst of varying intensities and other unforeseeable conditions. The reply was not convincing as the event of rock burst and damage to TBM occurred in May 2015 but later on the progress of excavation as per accelerated programme desired by the Prime Minister could not be achieved through TBM and WAPDA deprived from revenue of Rs. 51.5 billion.

The DAC in its meeting held on May 08, 2017 directed the management that the EoT be finalized and LD charges be imposed if delay extended under intimation to Audit. Further progress was not reported till finalization of report.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding loss due to delay in completion of project in violation of MoU besides implementing DAC's directives. (IRP No.4.1.4)

4.5.4 Annual recurrent loss due to losing of water rights on the western river under Indus Basin Treaty (Kishanganga case) – Rs. 5.15 billion per annum

According to Article of Annexure D, Cause 9 of "Indus Waters Treaty (IWT) 1960" on those tributaries of the Jhelum on which there is any agriculture use or Hydroelectric use by Pakistan, any new agricultural use by India shall be so made as not to effect adversely the then existing agricultural use or Hydroelectric use by Pakistan on those tributaries. Further according to the ECC's decision dated December 27, 1988 in case No.CEC-542/37/33, "those responsible for not undertaking forward planning and causing delays in implementation of projects should be taken to task".

During the performance audit of NJHP, it came to notice that Cabinet Committee on Wuller Barrage and Storage Project, by taking note to the provisions of IWT-1960, made a decision on February 08, 1988 that Pakistan should seriously consider taking in hand, the construction of all feasible projects on the tributaries of Jhelum for agricultural use and / or hydro electrical use in order to forestall India from doing so. In this regard, Pakistan had a scheme to divert the Neelum River (tributary after Jhelum Waters for such use) and India had also a similar scheme in occupied Kashmir. Therefore, the country with earlier completion / implementation of the schemes would reap the benefits of IWT-1960 by depriving the other country. Being executing agency, WAPDA had completed initial feasibility and design of 550 MW project in 1984 but PC-I was approved in 1989 with proposed completion date of the project in 1996. The project could not be executed and after a delay of 8 years only feasibility report was revised in 1997 by increasing the capacity from 500MW to 969MW. In 1998, a revised PC-I was prepared but disapproved by ECNEC with the decision to execute through private sector. Later on, ECNEC had approved 1st revised in 2002 to project to be completed in 8 years with completion period upto 2010. After a delay of 06 years, the contract was awarded on January 30, 2008 in absence of prerequisites such as land, financing and consultants. Non-serious rather halfhearted attitude towards IWT-1960 was clearly evident that NJHP was never taken on priority right from 1984 to date as the same was gravely marked with inordinate delays, changing of major scope of work, financial restraints. On the other hand, India started the work on Kishan Ganga Hydro Electric Power in occupied Kashmir and Pakistan lost its position on the rights of western rivers due to delay of NJHP as per the decision of the international Arbitration. According to a study carried out by WAPDA regarding impact of decision of the International Court of arbitration on water availability for Neelum Jhelum Hydro Electric Project, if Kishangangah Project was implemented as per original planned design then there would be reduction of 31% energy from NJHP in winter season and 4% in summer season making total annual energy reduction at average of 10% i.e. 515 million units amounting to Rs. 5.15 billion (Annex-9).

Delay on the part of project Authorities resulted in annual recurrent loss of Rs. 5.15 billion due to losing the water rights on the western river under Indus Basin Treaty.

The matter was taken up with the management in December, 2016 and reported to the Ministry in February, 2017. To offset the 10% loss in energy, a mini hydropower station had been planned on the diversion tunnel at the Dam site using the compensatory flows during low flow period and surplus water during high flow. The reply was not convincing because Pakistan lost the case in the International Arbitration Court due to delay of the project, if the project had completed in due time, Pakistan could have obtained full rights on the water.

The DAC in its meeting held on May 08, 2017 directed the management to submit revised / comprehensive reply along with documentary evidence to Audit within a week. Further progress was not reported till finalization of report.

Audit recommends that a high level inquiry needs to be constituted at Ministry level to investigate the matter of losing water rights over Jhelum river causing loss to the nation bedsides implementing DAC’s directives. (IRP No.4.3.2)

4.6 Compliance with Grant / Loan Covenants

4.6.1 Mismanagement resulting into suspension of foreign loans – Rs. 48.80 billion

According to Clause-60.2 of the Contract "Notwithstanding the terms of this clause or any other clause of the Contract, no amount will be certified by the Engineer for payment until the performance security, if required under the contract, has been provided by the contractor and approved by the employer."

During the performance audit of NJHP, it came to notice that the contractor was required to submit the Performance Security within 30 days after finalization of variation order No. 22. However, the Contractor did not submit the same because the Employer / GoP was defaulting in billion of rupees in making routine payments particularly in years 2012-14. Therefore, contractor was reluctant to exhaust his money further in the name of Performance Security. On the other hand consultant was certifying the IPCs without obtaining the performance security. Resultantly the donor agencies including Islamic Development Bank's (IDB), Organization of the Petroleum Exporting Countries (OPEC) and Saudi Fund for Development (SFD) suspended the disbursements in 2014. Hence, NJHP could not utilize the balance amount of loan amounting to US$ 319.52 million (Annex-8).

Project mismanagement and irregular certification of IPCs by the Consultants resulted into suspension of foreign loans and delay of the project.

The matter was taken up with the management in December 2016 and reported to the Ministry in February, 2017. Presently, Exim Bank of China loan-II getting operational with great efforts by EAD and MoW&P, and the project will achieve the financial close. The reply was not tenable as the variation orders of billions of rupees, were issued without any performance guarantees. Responsibility for non-obtaining of performance guarantees should have been fixed.

The DAC in its meeting held on May 08, 2017 directed the management to get the stance verified from Audit within a week. Further progress was not reported till finalization of report.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding irregular certification of IPCs without obtaining performance guarantees besides implementing DAC's directives.

(IRP No.4.1.12)

4.7 Overall Assessment

Overall Assessment of the performance of Neelum Jhelum Hydropower Project with reference to "Three Es" i.e. Economy, Efficiency and Effectiveness is as follows:

Economy

Project was delayed for almost 21 years due to which the project cost increased from Rs 15.253 billion to Rs 404.321 billion, thereby resulting in loss of Rs 389.068 billion as on June 30,2016.

Efficiency

The project was not executed according to the parameters of PC-1 as available resources were not properly managed to complete the work within time framework provided in PC-1. This reflected gross negligence on the part of project management.

Effectiveness

The project did not prove effective in reaping of envisaged benefits.

The observations noted by audit regarding over-all performance were as follow:-

4.7.1 Unjustified abnormal cost overrun – Rs. 389 billion

Accordingly to Clause-4.1 of the 'Manual for Development Project' regarding cost and time overrun, issued by the Planning Commission of Pakistan "with a view to avoiding cost over-runs and repeated revisions of the scheme, it is extremely important that information against the various columns of the PC-I is carefully provided. If a project is prepared with due care and based on surveys, investigations and feasibility studies, the time taken in its examination (and also execution) will be greatly reduced".

During the performance audit of NJHP, it came to notice that the original PC-I was approved for an amount of Rs. 15.25 billion during 1989, which had been revised three times up till now by cost overrun of Rs. 389.07 billion. The increase in cost remained at Rs. 5 billion/year from 1989 to 2002, which was increased up to 11 billion/ year in 2013 and now it had reached up to Rs. 15 billion per year.

Non-adherence to the Manual for Development Project issued by Planning Commission of Pakistan resulted in unjustified abnormal cost overrun of Rs. 389 billion.

The matter was taken up with the management in December, 2016 and reported to the Ministry in February, 2017. The management replied that the main reason of cost overrun was non arrangement of funds since 1989 and even after 2002 (1st revised PC-I) and there were still issues relating to financial closure in case of foreign component. However, the increase in cost had been approved by ECNEC. The reply was not satisfactory as the arrangement of finance for this mega project was required to be finalized before award of the contract. Responsibility for starting the mega project without arrangement of funds needed to be fixed.

The DAC, in its meeting held on May 08, 2017 was satisfied with the management's point of view however directed the management to submit revised / comprehensive reply to Audit within a week.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding cost overrun besides implementing DAC's directives. (IRP No.4.3.3)

4.7.2 Loss due to non-achievement of envisaged financial benefits – Rs. 236.93 billion

According to Table 17-B and 18-A of PC-I of 2002, Project Economic Analysis, NJHP will provide annual income of Rs. 26,216 million, other savings of fuel costing of Rs. 12,730 million per annum and saving in O&M costs as compared to thermal plant amounting to Rs. 542.06 million per annum. Total annual envisaged financial benefits were Rs. 39,488 million per annum (Rs. 26,216+ 12,730+ 542 million).

During the performance audit of NJHP, it came to notice that as per PC-I 2002 the project was required to be completed within the period of 8 years up to June, 2010. However, the project could not be completed within stipulated completion period up to June 2016. Delay of 6 years in completion of the project resulted in loss of envisaged financial benefits of Rs. 236.93 billion (Rs. 39,488 million/annum x 6) to the National Exchequer.

Non-adherence to PC-I resulted in loss of Rs. 236.93 billion due to non-achievement of envisaged financial benefits.

The matter was taken up with the management in December, 2016 and reported to the Ministry in February, 2017. The management replied that the cogent and justified reasons by WAPDA & MoW&P for the cost and time overrun were acknowledged by CDWP & ECNEC and accordingly PC-I (2012) & PC-I (2015) were approved. Moreover, the project would be completed in February, 2018. The reply was not convincing as most of the delays were due to mismanagements and poor planning like non-arrangement of funds, delays in implementation of project.

The DAC in its meeting held on May 08, 2017 directed the management that utmost efforts be made to complete the project in February, 2018.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding loss of envisaged financial benefits due to the delays especially after award of contract besides implementing DAC's directives.

(IRP No.4.3.1)

4.7.3 Unjustified abnormal time over run of 21years

Accordingly to Clause-4.26 of the 'Manual for Development Project' regarding cost and time overrun, issued by the Planning Commission of Pakistan “preparation of the project on the PC-I proforma is the pivotal phase of the project cycle**.** The maximum well begun is half done is most appropriate for completing this phase. The Sponsoring Agency should be given or give itself adequate time to prepare a project. The time taken in the examination of a project would be in inverse proportion to the time taken in its preparation. Thanks to the effort, the project would in fact lend itself to smoother and speedier implementation. A hurriedly prepared project, on the contrary, would run a difficult course throughout the project period and be afflicted with time and cost overrun and may ultimately prove to be counter-productive”.

During the performance audit of NJHP, it came to notice that the project was abnormally delayed due to abnormal time overrun of 21years since the approval of Original PC-I in 1989 (Annex-10). According to original PC-I project was required to be completed in 90 months (July 1989 to December 1996).The project was still under implementation with latest deadline of July 2017. Following the major reasons were behind time overrun:

- Lot of time was wasted during the feasibility study and design work during 1988-1997
- Feasibility study changed the design of the project from 500MW to 969MW, which necessitated the fresh approval of PC-I before proceeding, which could not be obtained till 2002
- Consultants for the supervision of the contract and preparation of tender documents were not appointed
- After approval of 1st revised PC-I a lot of time was wasted in tendering. Contract was awarded on January 30, 2008 i.e. 06 years after the approval of PC-I
- Contract was awarded without fulfilling the prerequisites such as land acquisition and arrangement of funds for the Project. When the Contractor mobilized at site there were some other problems like land acquisitions, provision of uninterrupted power supply, financial constraints, which caused further delay

- Even though the design parameters had changed due to earthquake of 2005, the contract was awarded on the pre-earthquake design which resulted in lots of delay due to frequent design changes
- In 2010 to cover the time lost, new technology of Tunnel Boring Machine (TBM) was introduced. Tending and import of the TBM was also a big task which took almost 3 years to start.
- Non-arrangement of finance was the major reason of delay in implementation of the Project. Financial close of the project could not be achieved up till now.

Non-adherence to the instructions of Planning Commission of Pakistan resulted in unjustified abnormal time over run of 21 years.

The matter was taken up with the management in December, 2016 and reported to the Ministry in February, 2017. The management replied that the main reason for time overrun was lack of availability of funds.

The DAC in its meeting held on May 08, 2017 was satisfied with the management's point of view however directed the management to submit revised / comprehensive reply to Audit within a week.

Audit recommends that the management needs to investigate the matter for fixing responsibility regarding the reasons pointed out by audit for abnormal time overrun besides implementing DAC's directives. (IRP No.4.3.4)

5. CONCLUSION

The Neelum Jhelum Hydropower Project delayed mainly due to non-achievement of financial close, land acquisition issues, non-provisions of inadequate power supply at site, frequent major design changes, non-finalization of detailed engineering designs along with frequent issuance of variation orders. Due to said delays, the envisaged benefits could not be achieved up till now and project cost increased by Rs. 400 billion up to 3rd revised PC-I. Moreover due to non completion of the project, Pakistan lost the case in the Court of International Arbitration on the rights of western rivers under the Indus Basis Treaty. NJHP is an exemplary mismanaged project resulting into heavy cost and time overrun.

5.1 Key Issues for the future:

Pakistan has lost its right on Jhelum Waters in the Court of International Arbitration due to delay and mismanagement by implementing agencies. Other Projects like NJHP which are required to be completed in the light of Indus Basin Treaty should be identified and completed as soon as possible to avoid any further loss to the Nation. Changes in design and specifications should be avoided after these have been finalized except where such changes are of critical importance. In future funds should be arranged before the commencement of project in the shape of financial close so that loss due to late payment charges could be avoided. Employers should also intensively monitor the activities of consultants and contractors especially regarding time lines of the project.

5.2 Lessons Identified:

Guidelines of the Planning division regarding execution of the development strictly be followed. Experiments of induction of new technologies should be avoided at the later stage of the project without having any experience. It is therefore suggested to incorporate the new technologies at the time of detailed design of the project keeping in view the financial position and economy of the project.

ACKNOWLEDGEMENT

We wish to express our appreciation to the management and staff of Neelum Jhelum Hydropower Company, for the assistance and cooperation extended to the auditors during this assignment.

__Annex-1__

PROJECT DIGEST

Name of Project	Neelum Jhelum Hydroelectric Power Project
Location	District Muzaffarabad, the State of Azad Jammu and Kashmir
Responsible Authorities	• **Controlling Ministry** Ministry of Water and Power, Govt. of Pakistan • **Department of Ministry** Water and Power Development Authority (WAPDA) • **Executing Agency** CEO/MD Neelum Jhelum Hydroelectric Power Company
Type of Project	Development Project for Power Generation
Objective of the project	The main objectives of the Project are • Power Generation of 969MW of electricity • Employment Opportunities • Socio-economic uplift
Beneficiaries	People of Islamic republic of Pakistan and state of Azad Jammu & Kashmir
Time Phasing	Construction of the project was started January 2008 and completion period was 8 years from the date of commencement, tentative commission date was November 2016 (first Unit). The Project was under construction up till December 2016 with following progress. • Physical Progress = 81.50% • Financial Progress = 60.00 %

Source of Finance	Government of Pakistan and through foreign loans • WAPDA own resources • Middle East Donors; • Islamic Development Bank (IDB) • Saudi Fund for Development (SFD) • OPEC Fund for Development (OFID) • Kuwait Fund for Development (KFD) • China EXIM Bank
Type of Finance	• Foreign Relent Loans Rs. 171.941 billion • CDL (Cash Development Loan) Rs. 20.770 billion • WAPDA equity Rs. 46.963 billion • NJS Surcharge Rs. 45.927 billion • NBP Loan Rs. 100 billion • Local Rs. 224.979 billion • Foreign Rs. 179.343 billion

Capital Cost

(Rs. in Billion)

Cost	Date	Local	FEC	Total	Exchange Rate
Original PC-I	31-12-1989	7.928	7.324	15.253	1US$= Rs. 45
1st Revised PC-I	28-02-2002	37.835	46.667	84.502	1US$= Rs. 60.3
2st Revised PC-I	03-07-2013	116.515	158.367	274.882	1US$= Rs. 86
3rd Revised PC-I	19-12-2015	224.979	179.343	404.321	1US$= Rs. 101

Project stage

The whole project was awarded to a single contractor M/s CGGC-CMEC China consortium, detail of the project stage as per PC is given below:

(Rs. in billions)

Cost	Up to Date Expenditure	Financial Progress	Commencement	Duration in Years	Completion		Physical Progress
					Original	Revised	
404	244	60%	30-01-2008	8	June 2010	30th Nov, 2016	81.5%

Annex- 2

FINANCIAL CLOSE POSITION

Up to 3rd Revised PC-I finance closure		Affected		Under process
		US$ (in Million)	**Eq. PKR (in Billion)**	**Eq. PKR (in Billion)**
a)	Foreign Lenders *	*1,143.440	119.883	
b)	NJ Surcharge	-	45.420	
c)	WAPDA Equity	-	46.963	
d)	CDL		20.770	
e)	NBP - Sukuk	-	100.000	
f)	Addition Loan from Exim Bank China	576.000	60.480	60
	Deferred		10.805	11
	Total	**1,719.000**	**404.321**	**71.285**

*Foreign Lenders Details		US$ in Million
1	**Norwegian Mix Credit**	1,700,000
2	**IDB PAK 121**	137,640,000
3	**IDB PAK 134**	220,000,000
4	**SFD-I 11/506**	81,000,000
5	**OFID 1310 P**	31,100,000
6	**KFD-I 819**	42,000,000
7	**KFD-II 910**	32,000,000
8	**Exim Bank-I**	448,000,000
9	**SFD-II 13/599**	100,000,000
10	**OFID-II/1532P**	50,000,000
	Total	**1,143,440,000**

__Annex-3__

Para No.4.1.2

Detail of on account payment against the EoT claim

Sr. No.	Claim No.	Amount in USD $	Date of Payment	IPC No.	Conversion Rate / US$	Pak Rs. in million
1.	I-T	4,000,000	27-11-2014	54	101.9376	407.750
2.		8,000,000	25-05-2015		102.1318	817.054
3.		Nil	Nil	Nil	Nil	204.000
Total						**1,428.804**

Annex-4

Para No.4.1.6

Financing Plan as per PC-I

(Rs. in million)

PC-I	Local Component	Foreign Component	Total	Plan Provision in PC-I	Year
Original PC-I	7,928.29	7,324.71	15,253.00	The project was included in current 5year plan, with the efforts to include in current plan. The funds for the implementation of the project were to be arranged on top priority basis. GOP may allocate funds out of special budget or by diverting funds allocated to less important project	June 1989
1st Revised	37,834.56	46,667.70	84,502.26	The project was included in WAPDA Generation Expansion Plan during the period of 2008-09 and also included in vision 2025 programme duly approved by Chief Executive of Pakistan. Project was also included in 10th 5 year Plan. The funds for the implementation of the project were to be arranged on top priority basis.	May 2001
2nd Revised	116,515.00	158,367.00	274,882.00	Project was included in Midterm development plan 2005-10	April 2012
3rd Revised	224,978.50	179,342.60	404,321.10	Project was included in Medium term plan 2005-2010	March 2015

Source (PC-I)

Annex-5

Para No. 4.2.2

Sr. No.	Nature of Delay	No. of days
1	Delay at C1, C2 and C3 due to action by local people.	07
2	Delay in TBM assembly	80
3	TBM test run delay	54
4	Delay due to increased quantity of Rock support TBM 696 (Dec 14 to May 15)	26
5	Delay due to increased quantity of rock support TBM 696 (Jan 16 to March 16)	44
6	Rock burst 31st May 2015 TBM 696	223
7	Rock burst 31st May TBM 697	12
	TOTAL	**428**

Financial Implications

Sr. No.	Claim No.	Letter No. Audit	Delay Days	Amount	
				LC (Pak Rs.)	FEC (UD$)
1	8	PO-17570 Dated 21-04-2015	7	1,923,766	948,707
2	12	PO-19296 Dated 26-10-2015	80	26,484,395	952,378
3	13	PO-22105 Dated Nil	54	-	6,900,000 1,100,000 400,000
4	14	PO-17476 Dated 13-04-2015	44	19,438,224	948,154
Total				47,846,385	11,249,239

Equivalent Pak Rs.

LC in Pak Rs. = Rs. 47,846,385 x Rs. 1 = 47,846,385

(FEC US$) = Rs. 11,249,239 x Rs. 104 = 1,169,920,856

Total = Rs.1,217,767,241

Annex-6

Para No.4.3.3

Method	Total Length (meters)	Percentage
D&B	48,288	70%
TBM	20,338	30%
GRAND TOTAL	**68,626**	**100%**

Annex-7

Para No.4.4.2

Sr. No.	Vehicle Description	Approved under PC-1 2012	Rs. in million
1	5 Door, 4 wheel Drive	5	55
2	Double cabin Pickups 4w	8	24
3	Van 14 Seats	2	8
4	Car 1300 CC	3	6
5	O& M		103
	Total	**18**	**196**

Sr. No.	Vehicle Description	Approved under 3rd revised PC-1	Rs. in million
1	5 Door, 4 wheel Drive	Nil	Nil
2	Double cabin Pickups 4w	18	63
3	Van 14 Seats	2	8
4	Car 1300 CC	5	10
5	O& M		103
	Total	**25**	**184**

Annex-8

Para No.4.6.1

Unspent balance of foreign loans at the time of suspension

Foreign Loans	**US$ in Million**
IDB 121	78.47
IDB- 134	95.41
OPEC-I532	15.69
SFD – 11/506	29.95
SFD- 11/ 599	100
Total	**319.52**

Annex-9

Para No.4.7.4

Average annual Generation = 5.15 Billion units

Average reduction 10% per annum = 515 Million units

Average Cost of units lost = 515x10= 5.150 billion @ Rs. 10 / Unit (KWh)

Average Loss per annum = Rs. 5.15 billion

Annex-10

Para No.4.7.6

Detail of Time Overrun

PC-I	Date of Approval of PC-I	Rs. in Billion	Cost Overrun Rs. in Billion	Cost overrun / year	Completion period	Completion Date	Time overrun in Days	Time overrun in years
Original PC-I	31/12/1989	15.253	0	0	7.5 years	30 December 1996	0	0
1st Revised PC-I	28/02/2002	84.502	69.249	5	8 years	30 June 2010	4,930	14
2st Revised PC-I	03/07/2013	274.882	259.629	11	No Date*	30 October 2015	6,878	19
3rd Revised PC-I	19/12/2015	404.321	389.068	15	No Date*	11 July 2017	7,498	21

Note 2nd, 3rd Revised PC-I was Approved without any completion date

As per the Contract Agreement of 2008 Completion date was 30th October 2015

As per current Status (Nov 2016) Completion date is July 2017