



## Water Resource Development Council (WRDC)

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Honorable  
Lt. Gen. (R) Muzammil Hussain  
Chairman WAPDA.

Ref: WRDC-I/L-58  
Dt: 25 Jan 2020.

**SUB: The WAPDA Imbroglio. Wasteful projects instead of critical reservoirs on Indus.**

Dear General Sahib,

I have sent on 14 Nov 2018 my memo with its 4 page "Appraisal" containing profound facts. Primarily I had discussed safety concerns of Diamer Basha Dam (DBD) and tried to invite your kind attention to the eternal observations of late Lt. Gen. (R) Dr. Ghulam Safdar Butt. His most learned efforts covered the Indus Cascade projects including Kala Bagh Dam (KBD) and Diamer Basha Dam (DBD). Investigations for KBD & DBD both were at an advance stage during his Chairmanship of WAPDA. It has been difficult to get your response inspite of several meetings over a period of about three years. Major projects of the Indus Cascade are covered in the Pakistan Business Council (PBC) Water Panel Report of 2015 duly updated in 2018; which I have presented to you. During your tenure we observe with great alarm that WAPDA has made no effort to improve perceptions on KBD or assist the Pakistan Indus Waters Commission (PIWC). WAPDA's HEP once provided the technical backbone to PIWC. The "Appraisal" doc of 14 Nov stands ignored. A very high & difficult dam in the Karakorums is being entrusted to NESPAK, a consultant without the required credentials.

Wasteful projects became the norm during the tenure of Chairman Mr. Shakil Durrani and the diabolical Member Water Mr. Raghbir Abbas Shah. During the period 2007 to 2013 WAPDA had lost direction. The planning section of WAPDA has become a virtual "graveyard" of long lost talent. When WAPDA will not build a large dam for +45 years where is the talent pool? A great national asset has been lost. Hard work is needed to create a team for large dams. The enemy has been able to infiltrate the Water Sector planning directly and surreptitiously via the ever influential "Indian Lobby" in the World Bank. The so-called Indus Cascade Reservoir projects are blocked. We are in deep sleep and content with over-exploiting our sole reservoir on the Indus Main forgetting that it is old & sick due to unchecked sedimentation entering its "delta" at an average of +160mn tons a year. Underwater dredging was never feasible. Due to the Ghazi Barrage a few km downstream the "sluicing" of this sediment is also no longer feasible. We could construct a sediment drain but where can we dump + 10,000 truck-loads of sand, silt & sediment every day? We can have World Bank funding for another useless project such as T-5 Ext HPP. Why not for Akhori Off-Channel storage on the Indus or KBD or DBD? What is critical?

I focus on the ongoing consultancy imbroglio. NESPAK is not a large dam consultant. They associate with recognized international lead consultants of dams. This adhoc policy will have a major impact on WAPDA's international reputation & solvency. WAPDA's new SOPs on major consultancy jobs are disturbing. NESPAK is also being used as the "Trojan horse" for MMP's Waseem Nazir. The new culture to award consultancy & construction contracts on the basis of single bids is illegal & unprecedented. A memo is attached. Best rgds,

For WRDC,

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Encl: WAPDA Consultancy Imbroglio

## WAPDA's Consultancy Imbroglio

**Indus Cascade:** The GB linkage with “Greater Kashmir” is a case of blatant treachery. The World Bank and other multilaterals refuse funding in any area declared part of “Greater Kashmir”. I do not name those present & serving bureaucrats as well as a few pseudo politicians who maintained & promoted this illogical anti-Pakistan position. However the duo of Chairman Mr. Shakil Durrani & Member Water Mr. Raghbir Abbas Shah never desired a detailed study of the Indus Cascade, Pakistan's lifeline. This duo brazenly tried to place the KBD project into disfavor and went to the extent of stating after the July 2010 floods that “if KBD had existed the flood damage would have been greater”. If GB is technically Greater Kashmir due to Ranjit Singh's conquests then Pakistan is technically still a part of Great Britain? A dangerous policy direction.

**Tarbela T-4 Ext HPP:** A grave error was committed by former Member Water, Mr. Raghbir Abbas Shah to entrust Tarbela Dam T-4 Extension HPP Consultancy to a lead Consultant consortium managed locally by Mr. Waseem Nazir. As I wrote on 14 Nov 2018 the MMI/MMP consortium lacked the necessary hydro mechanical experience of large HPPs. I now formally inform you that this group was blacklisted by WAPDA due to fraudulent over invoicing on Cholani Weir (LBOD) around year 2000. For the next three years your worthy predecessor Lt. Gen (R) Zulfiqar Ali Khan kept them on the blacklist. After 2007 Mr. Raghbir Abbas Shah rehabilitated them and ensured through a blatantly biased decision to award Tarbela T-4 Ext HPP to this Consultant. MMI/MMP ignored the serious constraint due to ever increasing sedimentation of the Tarbela Reservoir and with the obvious support of their friend Mr. Raghbir Abbas Shah proposed by 2010 an inflated plant output of 1410 MW; three units 470 MW each instead of two units 480 MW required in the RFP. The enhancement of output of the 1991 Chas T. Main Inception Report had no hydrological basis. Chas T. Main & NESPAK were Consultants for T-3 Ext HPP & understood Tarbela. MMI/MMP after being awarded T-4 Ext HPP indulged in classical “fraudulent inducement” by projecting that annual energy of 3.84bn electrical units was possible. They doubled the energy projection of 1.9bn units calculated by Chas T. Main in 1991 when Tarbela “Dead Level” was below 1340 ft asl.

**Power rating of generating plants is irrelevant if they cannot produce the electric energy due to lack of water.** WAPDA has to factually analyze how much additional electric energy becomes available due to T-4 Ext HPP. The annual energy output of Tarbela will not increase by 3.84bn units (3,840 GWh) as per enhanced T-4 design of the MMI/MMP consortium. Your statement as reported on 01 Nov 2019 by the Business Recorder is: **that Tarbela T-4 Ext HPP has generated 5.6bn units in one year.** The T-4 plant has presently water for an average of 67 days in a year. Therefore even if all three units are operated at 100% output the T-4 Ext HPP could theoretically produce not more than 2,270 GWh (2.27bn units). If Tarbela operators decide to randomly close generating plants on Tunnels 1, 2 & 3 and transfer their share of water to T-4 then it could generate about 5bn units working “round the clock”, during 7 months of water availability. **The total energy output of Tarbela should be our concern.** The T-4 Ext HPP output I reckon will not increase the output of Tarbela by 3.84bn units because of water shortage. It is therefore a national calamity if WAPDA would insist that due to T-4 the energy output of Tarbela has increased by 5.6bn or even 3.84bn energy units per year. The Authority has been misled.

**Neelum Jhelum HPP:** I had submitted in Nov 2018 that the Neelum Jhelum Power Tunnel project (NJHPP) due to the longer tunnel option selected by Mr. Raghbir Abbas Shah not only was a great financial loss but deprived Muzaffarabad of Neelum waters. An **Environmental disaster** for the AJK region. Perhaps a bigger source of attrition than Kishenganga Tunnel HEP (KGHEP) commissioned by India to divert waters from the Neelum to Bonar Nallah. Diversion of Neelum waters for NJHPP being much greater than by Indian KGHEP. If NJHPP was in a race with KGHEP as claimed by Mr. Shah then the longer tunnel option was “suicidal”. However he managed a

perfect excuse to induct Tunnel Boring Machines (TBMs) and inflated the NJHPP cost four times, making it the most expensive HPP in history. Cost of NJHPP energy is therefore very high.

**Tarbela T-5 Extension HPP Vs Akhori Off-Channel Storage:** Member Water Mr. Shah blocked the PC-II for Akhori Off-Channel storage around 2007 because he wanted to build T-4 Ext HPP. In spite of your assurances to several engineers that the proposed T-5 Ext HPP is not a “good” project, WAPDA is pushing ahead with a project that is even less feasible than T-4. It will have no share of water after DBD & DASU HPP are built. It also involves a hazardous blasting at Tarbela Dam between main spillways. This project kills the nation’s only hope of building Akhori Off-Channel, the backup storage on the Indus. Tarbela is now an old & sick reservoir with sediment level at +1400 ft asl. God forbid if there is liquefaction of the sediment delta we could lose Tarbela Power generation. At least we can keep people of Pakistan alive with a backup storage on the Indus Main. Kindly refer to the great words of wisdom by Lt. Gen Dr. Ghulam Safdar Butt in his third & final letter on 18 Nov 2004 to Gen Pervez Musharraf (Chapter 15 of PBC Report.)

Many years later in 2017 WAPDA’s “In-house Consultant on Large Dams” late Mr. Abdul Khaliq Khan, was asked how WAPDA ignores the great cost escalation of NJHPP and the very low plant factor of T-4 Ext HPP to now promote T-5 Ext HPP? His words were “the World Bank has given us a USD 700mn loan and the bureaucracy want to utilize it. The World Bank is not interested to finance any reservoir projects on the Indus”. General Sahib your comments against T-5 Ext HPP kept our hopes alive. Now we realize these were polemic statements. Let us seek the truth and WAPDA may at least arrange a Feasibility Study by a pool of Consultants who have interacted with the original TJV. The Tarbela Joint Venture that built Tarbela Dam included International Consultants; some still active. Safety of Tarbela is paramount. T-5 Ext HPP a wasteful project.

**Role of World Bank:** The World Bank has now a huge Indian origin bureaucracy that continues to do what all Indians desire i.e. to keep Pakistan economically weak and financially vulnerable. The World Bank was truly a friend and benefactor for around first 40 years of our existence; before the Indian origin bureaucracy was not entrenched. The Indians then targeted WAPDA. “Spin-Off” of WAPDA entities was under their dictate in 1998 but it went too far. There was no logical basis to separate the transmission sector (T&GS) functions of WAPDA; and create NTDC. There was a constitutional basis to separate the Power Distribution functions. The distribution DISCOS under the constitution are a provincial subject. Exactly as the distribution of irrigation waters by the provinces. World Bank refuses financing for DBD due to the unfair linkage of GB and Kashmir.

### **The unfolding tragedy of recent WAPDA Consultancy bids:**

**AA) Mohmand Dam** Consultancy WAPDA had ignored all three bidders who submitted bids in 2017. The Australian (SMEC) led consortium was the technically top ranked bidder reportedly at 94.8% with a bid of PKR 4.87bn on QCBS Basis (Quality + Cost Based System) but was ignored. WAPDA refloated in Dec 2018 the consultancy RFP on QBS (Quality Based System) and received a proposal of PKR 16bn from the Single Bidder; NESPAK consortium for rebid was expanded. SMEC now a consortium member of the NESPAK JV. NESPAK reduced their bid to PKR 10bn and received the Letter of Award (LOA). MMP was also inducted as a NESPAK associate. Why?

**BB) DBD:** Two proposals were received for DBD Consultancy on 24 March 2018. Both bidders had been prequalified. In October both bidders were informed that the validity of the bids have expired and they should take back their financial proposals. However Lahmeyer (TRACTEBEL Group) had extended the validity of their bid in Sep 2018. Ignoring the tradition of WAPDA culture and International Consultancy norms, WAPDA re-invited the proposals but this time on QBS basis instead of QCBS, the international format for such large projects. Local companies were also

encouraged to take the lead. Sure enough similar to the Mohmand Dam story only one proposal i.e. NESPAK consortium. No other firm participated. To facilitate NESPAK and their new partner MMP; WAPDA reduced the technical qualifications of key & professional personnel in the revised TOR. For DBD the basis has also been changed to QBS (Quality Based System) similar to the rebid of Mohmand Dam. These are unprecedented & non-transparent acts by WAPDA. **Again the NESPAK consortium was the sole bidder.** Again MMP added to the NESPAK consortium. Again NESPAK was encouraged to more than double the estimated cost. The TRACTEBEL Group (Lahmeyer) bid lying with WAPDA from the first round of bidding is reportedly around half of the PKR 47bn bid of this lone NESPAK consortium. It seems WAPDA wishes to award the consultancy to the NESPAK consortium at + 40bn. MMP is not a recognized Dam consultant. What was the imperative to compel NESPAK to induct MMP? Are we ignoring their transgressions on Tarbela T-4 Ext HPP? We are convinced that a single bid was encouraged to double the consultancy value. **MMP again introduced as associate in the rebid similar Mohmand Dam. Why?**

TRACTEBEL reportedly sent you an honest letter in June 2019 because the second NESPAK consortium bid of around PKR 47bn, submitted in 2019, is exorbitant. A single bid should have been rejected. Lahmeyer's financial bid submitted in first bidding process of March 2018 is still valid! Against all WAPDA SOPs & traditions; WAPDA ignores the fact that TRACTEBEL the holding group of Lahmeyer Consultants had extended the validity of their first bid which WAPDA continues to ignore. **The second bidding process launched in Oct 2018 without opening the proposals received a year earlier is illegal. There is only one bidder.** The Lahmeyer bid was reportedly the higher technically ranked bidder based on their proposal of 2018. What compelled WAPDA to announce a rebid? Why the technical ranking of both bids were kept a secret and the financial bids were left unopened? Why WAPDA has "thrown all caution to the wind" by ignoring the two consultancy bids for DBD as received in March 2018? Is WAPDA simply trying to accommodate MMP who are again playing the proverbial "dark horse" as new members of the NESPAK consortium? The pattern established for Mohmand Dam Consultancy is again at play. It is also learnt that the TRACTEBEL letter of June 2019 clearly **informs WAPDA that organizations such as Transparency International share their concern.** The affairs of WAPDA mega projects increased the Pakistan CPI (Corruption Perception Index) ranking. The water and power sectors are now the most visibly disturbed sectors that outsiders can observe. Smaller infrastructure projects of C&W or NHA can be concealed from outsiders but not the projects in the Water, Power & Energy sectors. Energy sector also covers Oil & Gas. The world is watching.

WAPDA is clearly inclined to award the DBD consultancy to local consultants under the leadership of NESPAK. A project as huge & technically complex as DBD, in the hands of a local consultant will be suicidal for the project & the nation. The narrative that local consultants will supplement their expertise by hiring expatriate individual consultants is fraught with serious issues of liability. **It is also critical for a consultant on such a mega project that he should be capable of resisting pressure from all quarters who would be tempted to milk the project.** At DBD both safety & economic future of Pakistan are at stake. NESPAK never designed a large dam; as lead consultant.

"DBD Appraisal" document main focus was the safety aspects outlined by Lt. Gen Dr. Butt in his three letters to Gen. Musharraf and solitary letter to Chairman Mr. Tariq Hameed. All written by Dr. Butt in a period of less than six months during 2004. Consultants with negligible experience of Large Dams cannot review the safety of proposed DBD by renting out individual experts from around the world. That is a serious miscalculation. NESPAK has not independently designed a RCC Dam of even 70 meters. How can they review a dam design with the world's highest RCC structure of nearly 270m in a zone of high seismic activity above the Central Asian fault-line? The river bed nearly 3,000 ft asl. A high RCC dam to be located in an extremely hazardous region. He wanted

WAPDA to revert to the original design of a safer & lower CFRD (Concrete Faced Rock filled Dam) and eliminate river bed excavation. **This could reduce the cost and time to build DBD by half.**

A passage from **Dr. Butt's letter of June 30, 2004 to Chairman WAPDA Mr. Tariq Hameed:**

*"This is a dangerous area to build a dam. The prosperity and survival of the country depends on this and other dams. Geology of the area has not been fully studied. Consider also a flexible rock filled dam with RCC cloaking. Do not allow the consultant to follow their hunch or first available solution. Every critical option and parameter must be considered in detail and only then discarded."..... (Full text in Chapter-15 of PBC Report)*

**DASU HPP:** Recently at a roundtable on 23 Oct 2019 the Rector NUST Lt. Gen (R) Naveed Zaman asked our great patriot Dr. (Hon) Shamsul Mulk the question, "who is planning water projects in Pakistan?" The answer from Mr. Shamsul Mulk was brutally honest "The planning is done in India". WAPDA today continues to follow the policies laid down by former Senator Nisar Memon and former Member Water Mr. Raghbir Abbas Shah. Soul-mates in the "Indus Forum". WAPDA agreed to build DASU HPP without an upstream reservoir? A reservoir that can trap the sand, silt & sediments before these high velocity particles reach DASU power house and erode the hydro turbines in a matter of weeks. WAPDA accepted the dictates of Mr. Masud Khan an agri-economist who visits Pakistan as a World Bank executive. Mercifully he decides that the DASU HPP will have 2,150 MW power capacity in the 1<sup>st</sup> stage instead of 4,330 MW. WAPDA complied.

#### **Conclusion:**

- 1) DBD Design Review & Construction Supervision consultancy must involve an internationally recognized large dam consultant in the lead. At least two compliant bids be evaluated.
- 2) WAPDA is operating without its legal "Authority", i.e. BoD for some three (3) years. An adhoc Member Water & Member Power means that WAPDA is operating outside the WAPDA Act. WAPDA is not a proprietorship. There is no imperative to violate the WAPDA Act.
- 3) WAPDA has to remain an autonomous organization with its own "Authority". The WAPDA Authority must follow the WAPDA Act and take decisions under its high mandate.
- 4) Setting up of SECP registered entities outside the WAPDA system to make major financial decisions is not legal under the WAPDA Act. WAPDA's balance sheet is critical for growth.
- 5) In 2018 several GMs & thirteen Chief Engineers were reportedly working on adhoc basis. Now WAPDA's solitary recognized hydroelectric expert is seeking early retirement. An admired Third World organization of the 1980s is now a shell. **Invigorate WAPDA's design capability. The nation must also know the truth on Tarbela Energy output due to T-4 Ext HPP.**
- 6) WAPDA's HEP once provided the technical backbone to PIWC. This is possible if top level engineers are groomed for the task. The 5<sup>th</sup> Commissioner PIWC Mr. Jamaat Ali Shah had severed this linkage. Recently the incumbent part time Commissioner PIWC Mr. Mehr Ali Shah, Jt. Secy. Federal Ministry of Water has maneuvered the transfer of PIWC HQ to Islamabad from Lahore. This is absolutely irrational as the pool of engineers that could be motivated to assist PIWC are available in WAPDA and NESPAK; both based at Lahore.
- 7) Without WAPDA, NTDC & DISCOS becoming corruption free and vibrant the economic revival of Pakistan is not possible. The economy has to be made self-sustaining. WAPDA was modeled on the TVA. It has a major role; to create conditions where hydro driven production centers can thrive and the people can standup as proud citizens. A misled WAPDA Chairman, an adhoc WAPDA Authority & a part-time Commissioner PIWC are not warranted.

Pakistan Paindabad.

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[www.wrdoc.com.pk](http://www.wrdoc.com.pk) (Jan 25, 2020)