National Electric Power Regulatory Authority
Islamic Republic of Pakistan

Registrar

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No. NEPRA/TRF-UTC/2013/ 15274

November 21, 2014

Mr. Asad Umer, MNA
Through
Fazal-e-Akbar & Company
House No. 220, Street No. 75,
Sector F-11/1,
Islamabad
Tele: 211 33 18

Subject: **Decision of the Authority in the matter of Review Petition filed by Fazal-e-Akbar & Company on behalf of Asad Umer (Member National Assembly) under NEPRA (Review Procedure) Regulations 2009 with respect to the Upfront Tariff of Coal dated 26.06.2014**

The Authority has made its Decision on the subject matter. The Decision has been sent to Ministry of Water & Power for further necessary action vide letter No. NEPRA/TRF-UTC/2013/15271-15273 dated 21.11.2014. A copy of the Decision is served herewith.

Enclosure: As above

21.11.14
(Syed Safeer Hussain)

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Dear Sir,

In continuation to NEPRA's Decision regarding reconsideration request filed by Government of Pakistan in the matter of Upfront Tariff for Coal Power Projects communicated to the Federal Government vide letter No. NEPRA/TRF-UTC/2013/7195-7197 dated June 26, 2014 and notified by Federal Government in the official Gazette vide SRO 942(I)/2014 dated 15.10.2014.

2. Enclosed please find herewith decision of the Authority in the matter of Review Petition filed by Fazal-e-Akbar & Company on behalf of Asad Umer (Member National Assembly) under NEPRA (Review Procedure) Regulations 2009 with respect to the upfront tariff of coal dated 26.06.2014 for further necessary action.

3. Please note that the findings of the Authority in the instant determination shall form part of the Decision dated June 26, 2014 notified vide SRO No. 942(I)/2014 dated October 15, 2014 and shall be considered as integral part of the said decision.

Enclosure: As above

21.11.14
(Syed Safeer Hussain)

Secretary
Ministry of Water & Power,
'A' Block, Pak Secretariats
Islamabad

CC: 1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad.
2. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad.

NOVEMBER 21, 2014

DECISION OF THE AUTHORITY IN THE MATTER OF REVIEW PETITION FILED BY FAZAL-E-AKBAR & COMPANY ON BEHALF OF ASAD UMER (MEMBER NATIONAL ASSEMBLY) UNDER NEPRA (REVIEW PROCEDURE) REGULATIONS 2009 WITH RESPECT TO THE UPFRONT TARIFF OF COAL DATED JUNE 26, 2014

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Islamabad

Background

1. Briefly the background of the case is that NEPRA announced Upfront Tariff for coal power projects (other than Thar Coal) vide its decision dated June 6, 2013. Later on the Government of Pakistan ("GOP") through Ministry of Water & Powerfiled a request dated 11th February 2014 for reconsideration of the decision of the Authority dated 6th June 2013 regarding upfront tariff for coal power projects. Upon such request of the GOP the Authority vide its decision dated 26-06-2014 announced revised upfront tariff for coal power projects in respect of Reconsideration Request of the GOP (hereinafter referred as "the Decision".

Filing of Review Petition

2. Subsequently Mr. Fazal-e-Akbar & Company on behalf of Mr. AsadUmer (Member National Assembly) (hereinafter referred as "the Petitioner") filed a review petition in respect of the Decision. The Petitioner in its review petition challenged the Decision of the Authority interalia on the following grounds.

   I. The GOP's reconsideration is not maintainable
   II. The Authority's review and the resultant decision exceeds its mandate as it takes into account issues/factors whose reconsideration was neither requested by the GOP nor included in the list of issues framed for the hearingi.e.allowance of jetty cost and introduction of 350MW category etc.
   III. RoE is excessive when compared to RoE allowed to other projects
   IV. The reduction in efficiency and increase in capital cost gives an unfair margin to investors.
   V. The benefit of upfront tariff may be restricted to supercritical technology only.
   VI. Subcritical technology should be excluded from the upfront tariff or it may be limited to first 1000 MW, thereafter, an upfront tariff may be announced based on the experience.

3. Later on the Authority considered the review petition in its regulatory meeting and after considering the grounds for review of the Petitioner admitted the same on August05, 2014 and decided to hold hearing in order to provide fair opportunity to all the stakeholders to participate meaningfully and to ensure transparency in its proceedings.

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Framing of Issues

4. The Petitioner raised several issues in its review petition. Some of the issues raised are similar in nature, therefore, the Authority considered it prudent to club those together for consistency. The Authority considered itappropriate that the grounds raised by the Petitioner should be formulated as issues for the stakeholders, accordingly the following issues were framed for seeking view point of the stakeholders:

    I. Whether the GOP's reconsideration is maintainable?
    II. Whether the Authority's review and the resultant decision exceeds its mandate as it takes into account issues/factors whose reconsideration was neither requested by the GoP nor included in the list of issues framed for the hearingi.e.allowance of jetty cost and introduction of 350MW category etc?
    III. Whether the RoE allowed is within the scope requested by GoP &whether the allowed RoE is excessive when compared to RoE allowed to other projects?
    IV. Whether the reduction in efficiency and increase in capital cost gives an unfair margin to investors?
    V. Whether the benefit of upfront tariff may be restricted to supercritical technology only?
    VI. Whether Subcritical technology should be excluded from the upfront tariff or it may be limited to first 1000 MW, thereafter, an upfront tariff may be announced based on the experience?

Hearing of the Stakeholders

5. The hearing was conducted in the matter on 14-10-2014 at Serena Hotel Islamabad. Individual letters were also sent to all the stakeholders to participate in the hearing. The hearing was attended by the Petitioner and the representatives from Energy Dept.KPK Government, Private Power Infrastructure Board (PPIB), Punjab Power Development Board (PPDB), Port Qasim Electric Power Company (Private) Limited (PQEP), Hub Power Company Limited (HUBCO), Thar Power Company Limited (TPC), Atlas Power Limited, Lalpir Power Limited, and Saba Power Limited. In response to the notices, Energy Dept. KPK Government, PQEP, HUBCO, TPC offer their written comments. The commentators' comments on the matter was also forwarded to the Petitioner for information and necessary action. Accordingly the Petitioner submitted its reply received on November 10, 2014.

6. During the hearing the Petitioner, Mr. Asad Umer submitted that he still believes in the importance of coal based power generation as he did when he was the CEO of Engro group. The Petitioner said that the tariff determination of 2014 is fundamentally flawed as it took

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some data as fact and that the economic rationale for coal plants remains very strong whereas, the environmental debts of coal are no longer ignored and therefore, in defining public policy, we have to make sure, that we don't make the same mistake, which the world had made earlier. ThePetitioner argued that lowering of efficiency standards would mean a direct increase in environmental emissions while everything else remaining the same so, allowing a 7 percent relative decreasein efficiency standards mean allowing a relative increase of 7 percent in terms of environmental emissions with no economic gain associated with it. He complained that the current regime doesn't put a cap on the type of technology as it is an open ended opportunity to create environmental degradation and therefore, requested that there should be some level of cap to stop the degradation.

7. The Petitioner further stated that no new information is available since 2013 determination that warrant decrease in efficiency standards. On the issue of the project cost, the Petitioner said that the European boiler provision shouldn't have been there as the project managers have the capability to negotiate a better project deal requiring European boiler within the same cost bracket. The Petitioner wondered why to go for the Euro boiler in the first place when investments are coming from China wherein all the top notch names like GE are already licensed manufacturers in China. ThePetitioner recalled that when he was CEO of Engro, the investors requested 17% return from Federal government for Thar coal however, to the Petitioner'ssurprise, the government allowed return of 20% which is detrimental to the interested hydro investor as nobody will come and invest in KPK hydro opportunity. He further argued that thousands of MW came@ 15 % return when Pakistan was in much worse shape with suicide bombing and political instability. Therefore, 17% return doesn't make sense.

8. After the Petitioner, representative of Govt. of KPK,Mr. Raziuddinmade submissions during the hearing. He argued that there is a need for rationalization of capital cost, thermal efficiency, and seven percent Sinosure commission. He also pointed out that there is confusion between the availability and the plant factor. He complained that some independent research was also required by NEPRA to come up with an information which was digestible by the economy as far as capital cost is concerned. He further stated that US$ 1.45 million dollars per MW is a good price for European and Japanese turbines and boiler, however, it is way up high for Chinese Turbines and boiler manufacturerand a differential of only US$ 0.1 million per MW seems to be very small differential. According to Mr. Raziuddin, it should be about 30 to 40 percent. He stated that the new tariff regime will affect federal as well as provincial economy. On the issue of efficiency, he argued that in 2012 November he received quotations from Siemens, Toshibas etc. which offered guaranteed efficiencyof 42 %. He however subsequently confirmed during the meeting with the Authority held on November 19, 2014 that Chinese Boiler and Turbines can

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achieve a maximum thermal efficiency of 39%. The KPK representative further concurs to the point the Petitioner raised regarding the environmental degradation as a result of drop in minimum efficiency standard.During the hearing Mr. Raziuddin confirmed that he would send his written comments along with relevant data to substantiate his claim.

9. Mr. Shamsud-Din Sheikh, CEO of Thar Power Company (TPC) stated by clarifying that this review petition is not against the Thar coal tariff which has been separately determined by the Authority owing to its peculiarities. He submitted that in 2013 determination, allowed RoE of 20% has an embedded IRR of 13%. Similarly, a project cost of US$ 1.25 million per MW was given + one percent Sinosure was to be added in the interest payments. CEO,TPCfurther complained that after review of 2013 determination, TPC requested NEPRA to allow IRR of 20 percent instead of 13 percent with an equity drawdown of 80%, 10% and 10%, whichNEPRA did not accept, andin factdetermined60%-20%-20% drawdowns which resulted in a lower ROE of about 30.65 percent. With regards to Euro boiler, the CEO stated that China does not have lignite as they work on hard coal therefore, for Thar plant better reliability and considering the fact that it's going to be first in Pakistan, TPC requested for Euro boiler provision which was also recommended by consultant like RWE who is the world's renowned expert on lignite. He clarified to the Petitioner that the Euro boiler is not supposed to be manufactured in Europe, but they will be manufactured in Chinain Alstom or Foster Wheeler workshops, however, the engineering and the technology will be done by the European boilers, manufacturers. TPC further stated that they are finding very hard to convince Sinosure fee @ 7% as they are asking 8 to 9% premium. However, TPC clarified that they won't request the Authority for increase in Sinosurefee as they hope that TPC will negotiate to bring the fee to the approved benchmark of 7%. TPC stated that since it is the first company developing Thar coal having uncertainties therefore, it is justifiable to give a 20% return however, he agreed with the Petitioner's suggestion that once few power plants are setup on Thar coal it should be revised downward at a reasonable level.

10. Another commentator Mr. Nadeem Babermade submissions in response toPetitioner's assertions (that thousands of MW have come on 15% IRR), stated that in the mid-2000s, WAPDA and NTDC were not late in payment, in fact there were times when NTDC use to pay a day or two ahead of the date. He further submitted that the credit has worsen tremendously which is very important development from investor standpoint. He further argued that since the mid 2000 it takes lots of time to get things through because of fear of NAB. According to Mr. Nadeem Baber, 27 % ROE translates to 15.7% IRR net of taxes, even if the Petitioner's insistence on allowing 15% IRR is accepted against 15.7%, the resultant impact in tariff will not be more than3 paisas. Mr. Baber requested the Authority to let the returns be 15%IRR and let's move on as a nation. On the issue of reduction in efficiencies, Mr. Baber argued that 41% to 42% efficiency plants are available, the question is whether

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someone wants to put 5 million per MW to get it or spend 1.45 and achieve 39%. He agreed with the Petitioner's point that better deals can be negotiated with the same cost bracket without the provision of Euro boiler, only if you have a billion dollar in your pocket. He further questioned whetherthe investors have billion dollar in their pockets and whether the banking system is able to generate the capital needed to build such large units.Even if the project cost is reduced by 100,000 dollars per MW, the cost of Euro boiler the impact would that have on tariff will be marginal 9 to 10 paisas. He clarified that it is wrong to assume that price in neighboring India is half of what NEPRA is offering. He referred to Indian Energy Exchange website, to confirm that on the date of hearing i.e. October 14, 2014, the clearing price of electricity in India was just under 5 Indian Rupees which is about Rs 10 per kWh Pakistan's equivalent. He further asserted that the price so calculated was based on $55 per ton coal price. If NEPRA approved coal price 110 $ per ton price is used 10 Rs per kWh price will go higher. NadeemBaber appreciated that every effort should be made to keep the prices at affordable rates but he stressed that delaying the action won't make it cheaper.

11. Mr. Tahir Javaidrepresentative of Hub Power Company largely supported NEPRA approved tariff. However, he reiterated that there should be clear distinction between the stand alone jetty cost recovery versus common jetty cost recovery.

12. There were other commentators i.e. Port Qasim Electric Power limited, Riaz Ahmad and Company which also spoke during the hearing.The arguments put forward by them were almost similar to what they subsequently sent in writing. After concluding the hearing the Authority granted seven days time to all the stakeholders to put forth their comments in writing. Later on the Authority received comments from various stakeholders and upon such comments the Authority received rejoinder from the petitioner received on November 10, 2014

Findings of the Authority upon the issues of the hearing

Issue # 1

Whether the GoP's reconsideration is maintainable?

13. The Authorityobserved that in the review petition as well as its subsequent correspondence dated 20-10-2014 and 05-11-2014, the Petitioner has challenged the decision of the Authority by alleging that the review request of GoP for reconsideration of 2013 Upfront Tariff was time barred as it was filed 8 months after the announcement of upfront tariff. It was further submitted by the Petitioner that the statutory period for filing such review was 15 days under section 31 (4) of the NEPRA Act, 1997. However the

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Authority without any plausible reason condoned such delay in filing the reconsideration request.It has been further submitted by the Petitioner that no formal request/application for citing reasons for the eight months delay in filing the Request or grounds upon which the Authority's condonation was sought, were submitted by the GoP and there is no provision in the NEPRA Act or its subordinate legislation which empowers the Authority to condone a time barred reconsideration request by the GoP under section 31(4). The Authority has considered the foregoing submissions and observe that the GOPrequested NEPRA for review of the upfront tariff for Coal under section 31 (4) of NEPRA Act, Rule 12 (16) of the Tariff Rules and Regulation 3 (2) of the NEPRA Review Regulations. At the time of admission of the review request of the GOP, the Authority considered the grounds of review of the GOP and while exercising its power vested in it under section 7 (2) (g) of NEPRA Act, 1997 to review of its own orders or determinations, decided to conduct a public hearing upon the GOP request of reconsideration. It is pertinent to note that the very fact of involving the stakeholders for deciding the request of GOP clearly shows the Authority's intention to exercise its suo motu powers to review its determination, if at all the facts and circumstances of the case warrants modification of earlier upfront tariff determination.

14. It is further added that Authority performs various functions including regulatory, inquisitorial and adjudicatory. The powers conferred by the Legislature upon the Authority under the NEPRA Act and more specifically under Section 7 of the Act are of wide magnitude and of serious ramifications. The Authority has the jurisdiction to determine tariff, rates and charges including the terms and conditions of sale of electricity. Similarly, in appropriate cases the Authority is empowered under section 7 (2) (g) of the Act to review its orders where it is of the opinion that the earlier order is erroneous or has adverse effect on the power sector but such adverse effect can be eliminated by suitable modification. Such power of review is available to the Authority upon an application or can also be exercised by Authority Suo Motu if the Authority is of the opinion that its order or determination require modification. NEPRA has such authority of review without any constraints or limitations. The very purpose of having such powers under the Act is to review the decisions of the Authority in appropriate cases to safeguard consumer interest. In the particular case of review of GOP regarding upfront tariff for coal, the Authority considered thegrounds of review including the fact that not a single investor had opted to construct a coal power plant, therefore it was open for the Authority to review the earlier tariff determination and address the deficiencies, if any, in the earlier tariff after holding a public hearing and seeking assistance from the stakeholders upon the issues raised by GOP in its review request.

15. As regards to the submission of the Petitioner that the review petition of the Federal Government was time barred, the Authority also considered that in view of the power of

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the Authority to condone delay in appropriate cases coupled with its statutory power to review its own orders, the Authority had the inherent power to condone the delay in filing of the review. It is pertinent to state that even if the review application of the GOP was barred by time, the Authority had suo motu powers of review to correct its own error and in keeping in view such power of the Authority the question of limitation does not bar the remedy. The Authority also noted that in case of denial of review to GOP under section 31 (4) the process of disposal of case may have been speeded up and hurried as claimed by the Petitioner but the fairness which is a basic element of justice cannot be permitted to be buried on account of mere technicalities.

16. The Authority has also noticed that the Petitioner has relied on various dictums of the honorable superior courts in support of its assertions against the issue of limitation and condonation of delay by the Authority upon GOP request. In this regard, it is stated that all the case law cited by the Petitioner relates to the adversarial proceedings conducted by the honorable courts. In all such judgments, when a valuable right is accrued in favor of a party after passing the time of limitation, the honorable Courts have always shown reluctance in condoning the delay. Such restraint however is exercisedspecifically to safeguard the interest of a party in favor of whom a decree or order had been passed. However in the instant case, it is relevant to state that NEPRA is a statutory body with an inquisitorial role. The determinations of the Authority are made after involvement and assistance from the public at large and receivingdocumentary evidence from different stakeholders. It may be added that when the Authority received request of GOP, no investor had been granted upfront tariff therefore the initiation of proceedings of review was not detrimental to any party/person. The Authority was also mindful of the fact that there is urgent need to diversify the fuel mix in the power generation and therefore it was prudent to receive and appreciate relevant input from the stakeholders to arrive at informed decision. It is also worth mentioning and as has also been stated by the Petitioner, that imported coal base power generation has not been undertaken in Pakistan so far, therefore novelty of the technology entails peculiar and new issues for the power sector, which should be addressed by the Authority with assistance of all the stakeholders.

17. It may also be noted that the Law of Limitation is made in order to advance justice and not to punish the parties. If there is pardonable excuse even long duration can be condoned. The NEPRA Act is a legislation intended to protect the interests of consumers so while construing the said provisions of limitation, NEPRA has to take a liberal view of genuine requests and such request should not be allowed to be defeated on the technical ground of limitation. The Authority has been guided by the following principles laid down by superior courts in dealing with cases involving question of limitation:

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a. *Refusing to condone delay can result in a meritorious matter being thrown out at the very threshold and cause of justice being defeated. As against this when delay is condoned the highest that can happen is that a cause would be decided on merits after hearing the parties.*
b. *"Every day's delay must be explained" does not mean that a pedantic approach should be made. Why not every hour's delay every second's delay? The doctrine must be applied in a rational common sense pragmatic, manner.*
c. *When substantial justice and technical considerations are pitted against each other, cause of substantial justice deserves to be preferred for the other side cannot claim to 'have vested right in injustice being done because of a non-deliberate delay. There is no presumption that delay is occasioned deliberately, or on Recount of culpable negligence, or on account of mala fides. A litigant does not stand to benefit by resorting to delay. In fact he runs a serious risk.*
d. *It must be grasped that judiciary is respected not on account of its power to legalize injustice on technical grounds but because it is capable of removing injustice and is expected to do so.*

18. It has been further averred by the Petitioner that Regulation 3(2) allows an aggrieved person to file a review motion of a tariff determined by the Authority for any one of the three specific reasons cited therein, namely, (i) discovery of new and important matter of evidence or (ii) on account of some mistake or error apparent on the face of record or from (iii) any other sufficient reason. The GoP has not cited any of the grounds enumerated in Regulation 3(2) as basis for its request, rather it cites its own incorrect "expectation" that the upfront tariff will attract the private sector investment, and "feedback" received from unnamed investors based on GoP's market due diligence. In this regard the Authority is of the view that the Authority has passed the Decision of review after considering new facts as well as on the basis of documentary evidence submitted by various stakeholders in the review proceedings which has been specifically discussed in the succeeding paragraphs. The Authority is also of the opinion that in case it had denied the GOP request to review its determination on account of strict interpretation of section 31 (4) of the Act and Regulation 3 ibid, this may have created an impression of refusal to exercise observation by NEPRA for technical reasons. The Authority noted that in the particular case of upfront tariff, the GOP being the policy maker and in order to bring investment in coal project had requested NEPRA to reconsider its earlier determination. The Authority consideredthe request and after holding the public hearing as well as receipt of input from various stakeholders proceeded to decide the reconsideration request of the GOP strictly in accordance with law.The Authority also observes that the only criteria for exercising its jurisdiction is to act judiciously, fairly, reasonably and in order to advance the purpose of the NEPRA Act. The Authority while reconsidering the request of GOP involving sufficient reasons proceeded to

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review its earlier tariff determination. Therefore exercise of jurisdiction by NEPRA could only be challenged if it is apparent in the proceeding that the Authority had acted with malafide, unreasonably or not in furtherance of the object of the law. No such plea has been taken by the review Petitioner; the Authority had acted lawfully and legally passed the decision and therefore, objections of the Petitioner on the maintainability of the GOP reconsideration request are rejected.

Issue # 2

Whether the Authority's review and the resultant decision exceeds its mandate as it takes into account issues/factors whose reconsideration was neither requested by the GoP not included in the list of issues framed for the hearing case in point,allowance of jetty cost and introduction of 350MW category etc.

19. The Petitioner in the review petition submitted that, assuming without conceding that even if the request was maintainable, the Authority's review and consideration thereof was to be conducted within the parameters of the upfront tariff and the GoP's request. Yet, the Authority's review and the resultant decision in the form of revised tariff exceeds its mandate as it takes into account issues/factors whose reconsideration was neither requested by the GOP nor included in the list of issues framed by the Authority for consideration. As such, the Revised Tariff is ultra vires and arbitrary.

20. The Petitioner in the review petition and comments dated 20th October 2014 further elaborated the scope of review and submitted that GOP requested inclusion of IDC, ROEDC and withholding tax on dividends, not increase in the return on equity by a specific percentage. Increase in ROE was also not included in the issues framed by the Authority. Similarly the Petitioner raised objection on the inclusion of new category of 350 MW project based on the comments of HUBCO when it was unable to supply information in support of its comments. This category was neither included in the upfront tariff nor requested by GOP. The Petitioner also opposed the inclusion of cost of jetty on the basis that it was not requested by the GOP. The Petitioner requested that the cost of jetty must be removed from the revised tariff as it increases the burden of the consumers and it has been included by the Authority on its own and without explanation. The Petitioner also objected the Sinosure fee @7% for Chinese financing. According to the Petitioner as per the market norms this fee is around 2.5% and the additional fee of 4.5% is an added burden for the consumer, in addition being discriminatory against investors from other countries. The Petitioner requested either to rationalize it or similar concession should be offered to potential investors from other countries who may incur similar expenses under the regulatory regime of their own countries.

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21. The Petitioner further pointed out that the revised tariff discusses the viability of up-country projects in view of non-existent infrastructure and the excessively high transportation costs. According tothe Petitioner, estimates the cost to be as high as $80/ton yet states that it will not oppose such projects. Whereas, the investor may not have to worry about transportation costs being a pass through item, passing on such an exorbitant cost to consumers would be unfair and will defeat the purpose of affordable power supply to consumers. The Petitioner suggested to encourage coastal projects that avoid such costs and can supply cheaper power up-country through wheeling. At the very least, transportation costs for inland coal projects should be capped at a certain figure so that the entire burden is not heaped on consumers.

22. M/S Riaz Ahmed & Company,HUBCO and PQEP however, objected to the Petitioner'sstance in favor of reduction in RoE. The commentators 'comments are detailed under issue# 3.

23. With regards to the issue of jetty cost, HUBCO submitted that it is encouraging that the jetty has been built into the upfront tariff as almost all the coastal plants have some mode of infrastructure involved in coal handling post CIF and NEPRA has allowed building such infrastructure into the tariff and without such infrastructure, investment in the coal plants will not be viable.

24. HUBCO also submitted that the caps on loan premium and Sinosure fee must be removed considering that there is no precedence of project finance to Pakistan based companies from China. These rates should be reviewed by NEPRA for all IPPs. Initial indication dictates a higher premium for both interest and insurance as compared to what NEPRA has given in Upfront Tariff. China Three Gorges project attracted a lower than 7% fee and the same may have been used by NEPRA for coal IPPs as well. While this approach of NEPRA has a solid reference, the case in future will be different due to project finance nature of all new projects. According to HUBCO, Sinosure has indicated a change in its pricing policy and any such change should be properly incorporated for coal IPPs.

25. Port Qasim Electric Company (Private) Limited ("PQEP") in its comments with respect to the Petitioner's objections that the reasons and grounds in the reconsideration request could not form the basis for a reconsideration or review of the Initial determination, submitted that it is pertinent to reiterate that no conditions or restrictions have been imposed in either Sections 7 (2) (g) or proviso to Section 31(4) for review or reconsideration by NEPRA. In accordance with established principles of statutory interpretation, such a power of reconsideration and review should be exercised by NEPRA reasonably and in order to advance the purpose and intent of the law. This is reinforced by Regulation 3 (2), which permits NEPRA to entertain a motion for review for any sufficient reason. According to

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PQEP, the sufficiency of a reason has been left to the discretion of NEPRA and the exercise of such discretion cannot be challenged, except on the grounds that such reasoning or opinion was patently unreasonable, or not in furtherance of the objects of the law. No such grounds have been shown by the Petitioner.

26. PQEP further submitted that the Petitioner's legal objection on NEPRA enhancing the scope of the review beyond the issues highlighted in the reconsideration request is also without merit. NEPRA has the suo motu power to review its decisions. It would, therefore, be absurd to suggest that if during the course of hearing a motion for review filed by an aggrieved party, NEPRA becomes aware of further errors or deficiencies in the determination, e.g. through discussions and comments of other interested parties, it should consciously fail to remedy such errors and deficiencies. This would be a gross violation of the law and failure to exercise the statutory power vested in NEPRA for addressing exactly such situations.

27. PQEP also submitted that the cap of 7% is not in line with the comparatively higher prevalent available rates from Chinese insurance agency. These higher quoted rates were also referred to by Mr. Shams-ud-din Sheikh (Sindh Engro Coal Mining Company) during the hearing on 14 October 2014; it only appears to consider the Sinosure premium during construction stage for Chinese investors. However, it may be noted that Sinosure is also mandatorily required during the repayment period after COD. PQEP suggested that Sinosure fee should be recoverable at actual, in the manner and to the extent actually charged by and paid to Sinosure and there should be no cap. PQEP suggested that NEPRA can directly engage with Sinosure to confirm and verify the actual figures being quoted and charged by it. PQEP also highlighted that it is required by the Chinese lender for Chinese investors to also obtain Sinosure insurance for equity portion of the Project due to high political risk. In such case, Sinosure fee on equity portion should also be included in the tariff.

28. PQEP submitted that the determination generally adequately deals with the power generation segment of the power complex, its treatment of the coal jetty, particularly self-use coal jetty, requires certain explanations and clarifications to ensure its bankability and to ensure higher capital, O&M and financing costs (including Sinosure fees) on account of jetty are adequately addressed in the tariff. The commentator also requested to allow withholding tax on dividends to ensure net of tax IRR of 17% as against the current 15.7%.

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Finding of the Authority upon the issues

29. The Authority has considered the submissions of various stakeholders upon the subject issue and it has been observed that the Authority had the Suo motu powers which allow it to review its decision and it would be imprudent to suggest that in case the Authority becomes aware of an error or deficiency, the same should not be rectified at any belated stage. In fact the Authority is of the view that it would be a violation of law if the Authority would fail to remedy any such deficiency. The Authority also observed that the scope and implications of review petition in a case of upfront tariff should be different from a review of cost plus tariff with specific generation, since the very purpose of upfront tariff is to attract the prospective investors. Once it was transpired that there were some deficiencies which needed rectification to make the upfront tariff compatible for the generation companies and affordable for the consumers, the Authority has rightly preceded the review of the earlier determination.

30. In view of the foregoing, the Authority while reviewing the earlier determination, acted strictly in accordance with the law. The Authority still considers it pertinent to discuss the merit of the scope of review which are discussed in the succeeding paragraphs.

31. The Petitioner's first objection regarding the scope of the reconsideration request was that the GOP requested ROEDC and withholding tax on dividends and not the increase in return on equity. The Authority considers it necessary to clarify that NEPRA accepted the GOP's reconsideration request regarding ROEDC.As a result thereof, the ROE has increased correspondingly. Both ROE and ROEDC components of tariff have been clubbed under the head of ROE instead of showing under separate heads/columns in the tariff table. The discussion on this issue and subsequent decision of the Authority is further detailed in issue # 3.

32. The Petitioner's second objection regarding the scope of the reconsideration request was the inclusion of new category of 350 MW which was neither included in the upfront tariff nor requested by GOP. The Authority believes that it is regulator's statutory duty to bring efficiency in the power sector in terms of section 31(2) (d).The Authority included this new category to promote super critical technology with higher efficiency in smaller plants which can be set up at lower overall cost and will need less financing and less equity investment. The Petitioner itself suggested that the benefit of upfront tariff should be restricted to the super critical technology. Therefore, the Petitioner should in fact support this initiative as 350 MW is supercritical technology with lower overall tariff than 220 MW subcritical technology.

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33. The Petitioner's third objection regarding the scope of the reconsideration request was that the cost of jetty was not requested by the GOP. It is to be noted that coal offloading facilities like Jetty is an integral part of the imported coal fired power plants in the coastal areas. During the process of reconsideration of the upfront tariff PQEP (formerly Sinohydro Resource Limited) planned to build 2x660MW imported coal power plant at Port Qasim, stressed the need for incorporating jetty and allied infrastructure cost for all coastal coal plants. The Authority considered the request legitimate and in accordance with Rule 17(3) (i) of the Tariff Standards & Procedure Rules 1998which allow the licensee the recovery of any and all costs prudently incurred to meet the demonstrated needs of their customers. Accordingly the Authority decided to incorporate the jetty cost to enhance the comfort level of investors. The Authority indicated lump sumcost ofjetty, which will be adjusted on actual cost on the basis of verifiable documentary evidence. The Authority considered that allowing cost of jetty to a coal project is not a new idea; as it is generally a part of large scale coal power plant.It worthwhile to mention that while determining the tariff for AES coal project that came under costplusregime, the Authority also allowed the jetty cost in year 2009.

34. The Petitioner's fourth objection regarding the scope of the reconsideration request was on the Sinosure fee. Sinosure fee was part of the upfront tariff dated 6th June 2013 under Para (ix) and was pass-through. On the basis of submissions made by Thar Power Company Limited (TPC) in the matter of Upfront Tariff for Thar Coal Projects, 7% upfront Sinosure fee was incorporated in the upfront coal tariff dated 26th June 2014 which is adjustable at actual at the time of COD with a maximum cap of 7%. For the purpose of consistency the same has been provided in the cases of project on imported coal. It is also provided that in case of alternative arrangement (like the previous one), the same will be considered at the time of COD. TPC in its comments in the subject review petition has also submitted that Sinosure is asking for 9% and they are trying to bring it down to 7%. In case the actual Sinosure fee is less than

35. The Petitioner's fifth objection rather a suggestion was on the issue of providing an option of building power plant in a place that could lead to a very high inland transportation cost. The cost/benefit issue of coastal vs. non-coastal based coal plants was discussed in para VIII (a) of the Decision of the Authority wherein the Authority opined that "However, the Authority is cognizant that cost*(transportation)* even though is a pass through, it has to be reviewed keeping in view alternative arrangement for project location, size and that alternative transportation options have been exhausted to the benefit of achieving optimal tariff. At this stage the Authority in principle has no objection of allowing inland coal transportation from port to the potential power plant. However, all such plants proposing

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to be built on noncoastal area comprising significant inland coal transportation cost must ensure that alternative location of plant have been looked into". This means that such sponsors proposing to build power plant on noncoastal area have to ensure that it is the most cost effective to non-coastal area plant. This para VIII (a) of the Decision of the Authority dated June 26, 2014 is sufficient to address the Petitioner's concern.

36. During the discussion, the Petitioner also raised a point that it is wrong to conclude that the investors showed no interest in the Authority's approved 2013 tariff as according to the Petitioner, many investors respondedpositively by submitting Expression of Interest (EOI) on the Punjab's Initiative for Development of Coal Fired Power Projects before the deadline of March 31, 2014 wherein, Authority's approved 2013 tariff was applicable. The Authority considered the issue and in light of the available record therefore, clarifies that neither Punjab Power Development Board (PPDB) which spearheaded the "coal initiative" norany other investor approached NEPRA for opting of 2013 upfront tariff. Further, GOP through Ministry of Water and Power also confirmed in writing in the reconsideration request that the 2013 tariff is not acceptable to the investors as none has shown interest in its opting.Therefore, the Authority find no reason to doubt the GOP's assertion with respect to lack of investors' concern and find it difficult to conclude otherwise.

37. In the light of discussion made in the preceding paragraphs, it is evident that while reviewing/reconsidering its decision dated 6th June 2013, the Authority exercised its powers under the Act and the Rules and Regulations made under the Act, therefore, the objections raised by the Petitioner are not maintainable and therefore rejected.

Issue # 3

Whether the RoE allowed is within the scope requested by GoP &whether the allowed RoE is excessive when compared to RoE allowed to other projects

38. The Petitioner submitted that GoP's reconsideration Request neither specified the percentage of increase in the RoE; nor included in the issues framed by the Authority for the purposes of the Revised Tariff. Thus, the Authority's action in awarding the twenty seven (27%) to thirty percent (30%) for new coal power projects is ultra vires and beyond its mandate. The GoP had requested inclusion of IDC, ROEDC and withholding tax on dividends in the Upfront Tariff. The fact that the Authority declined this request and instead granted a 29% RoE (which had not been requested) is not justified.The unusually high RoE for imported coal will hurt generation facilities utilizing indigenous fuel sources such as hydro.

39. KPK government in its comments supported the Petitioneron the issue of Coal vs. Hydro plants return and stated that "NEPRA has allowed an ROE up to 29.5% and with this

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inequitably outlandish rate, has caused a great dent in investments towards hydro-power generation".

40. In response, Riaz Ahmad & Company submitted that the upfront tariff issued on 06 June 2013 did not include the ROEDC (Return on Equity During Construction) and Withholding Tax on Dividend that was erroneously/mistakenly not mentioned in tariff calculations. After the rectification of the above, investors have started to proceed with the investments. Riaz Ahmed and Company further informed that depending on project schedule,IRR comes in the range of 15.36%-17% which is still low considering the risk premium for Pakistan. According to the commentator, the clause 1.4 of Guidelines for Determination of Tariff for Independent Power Producers (IPPs) issued by Ministry of Water & Power, Government of Pakistan in November 2005, stated that "IRR should be equal to the long term interest rates based on auction of ten year PIB held during the last six months plus a premium of "X" to be determined by NEPRA." According to Riaz Ahmed and Company if PIB current yield of 13.35% and current equity risk premium of 16.25% is taken the IRR should be 29% at least, but NEPRA allowed IRR at 15.36%-17%

41. HUBCOdisagreedthat the Petitioner's argument in the hearing is correct when the Petitioner stated that 15% IRR attracted many sponsors of thermal projects investors in the past. Currently, upfront tariff only offers 15.7% net-of-tax IRR to sponsors of imported coal IPPs.HUBCOfurther stated that a lot has changed since 2006/2007 and that there are other factors which put the coal upfront regime in different position to the regimes in vogue for other fuels. HUBCO submitted the following key changes in coal upfront regime compared to other thermal regimes:

    i. Upfront tariff regime is relatively risky and such additional risk justifies additional IRR so 17% net-of-tax IRR is justified.
    ii. Coal IPPs are new to this country and the sponsors will undertake technology risk unprecedented for the 2006-2008 thermal projects
    iii. 2014 is one of the worst years hit by circular debt increasing the overall risk profile of the projects. The projects today are being developed in the context of 4-5 years of circular debt problems. This justifies additional IRR
    iv. Coal based projects depend upon imported fuel that put additional guarantees from project companies towards the coal suppliers. Such guarantees have been missing from other thermal projects because either GOP is providing gas or local suppliers make RFO abundantly available. This supply chain risk justifies additional IRR.
    v. Also, Coal fired plants are at an inherent disadvantage as compared to other power plants e.g. wind power plants because the net IRR to investors is lower in

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coal. The upfront tariff for coal offers ROE enough to achieve 17% pre dividend tax IRR. Wind upfront tariff, in comparison, offers 17% post dividend tax IRR

42. HUBCO also recommended that tariff table be revised with IRR to be calculated without any terminal value. The plant's value may be negative in 30 year timeframe. According to HUBCO, current tariff table assumes that initial equity will be reimbursed at the end of 30 years.

43. Responding to Petitioners' argument that high RoE given to coal put Hydro in disadvantage position HUBCO clarified that Hydro projects have 17% IRR on cost plus basis with a lot of risks passed on to the consumers. With fewer risks in Hydro (and no fuel supply risk), 17% IRR for Hydro projects offers a better risk-return mix to investors as compared to imported coal IPPs.HUBCOrecommended that withholding tax reimbursement regime should be provided to Coal IPPs to maintain a level playing field and to promote low-cost generation in the country.

44. Another commentator M/S Port Qasim electric power company (Private) Limited (PQEP) submitted that, NEPRA has allowed an ROE of 27.2 % for an imported coal power plant of 660 MW, which is expected by NEPRA to ensure an IRR of 17 % before deduction of withholding tax on dividend. In fact, after withholding tax of 7.5% on dividends the net IRR for the investor will be 15.70%. Therefore, NEPRA may kindly reconsider its decision not to allow adjustment for withholding tax.

45. PQEP further informed that the IRR of the Project will be substantially less than even 15.70 % if the issues (related to O&M, Jetty cost etc.) identified in their letter are not satisfactorily addressed by NEPRA in the up-front tariff.

Petitioner Response to Comments

46. In response to the comments of the stakeholders the Authority received response of the Petitionerin which it has been stated that HUBCO contends that an upfront tariff regime is relatively risky and such additional risk justifies additional IRR so 17% net-of-tax IRR is justified. According to the Petitioner an upfront tariff regime in contrast to a cost plus model promotes more efficient operations and avoids the seller's tendency to overcharge. Moreover, upfront tariff gives the investor the opportunity to earn a higher return and therefore, does not justify asking for a higher IRR. It is also incorrect to state that Coal IPPs are new to this country and the sponsors will undertake technology risk unprecedented for the 2006-2008 thermal projects. Coal IPPs related technology has been in existence globally for some time now and the same will be used in Pakistan, therefore, no associated risk. One of the world's largest coal fired power station, Taichung Power Plant in Taiwan was built in 1992 whereas one of the world's most energy efficient coal fired power plant, and

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AvedorePower Station in Denmark was built in 1990. This clearly shows that coal based power plants related technology is not new and does not entail any associated risk.

47. The Petitioner further argued that a higher return on power projects is also not going to cover the risk of circular debt as the factors leading to this problem are not return based but governance related, which needs to be addressed by the federal government on an emergency basis. If circular debt argument was relevant, then a number of organizations would not be investing in power generation, but the opposite is true as a number of banks are funding many such projects in Pakistan. Singling out coal fired power plants and asking for a higher IRR on this basis does not hold any ground. Moreover, circular debt is a short term issue and trying to compensate investors for this current risk for the next 25-30 years does not make sense.

48. Finally, the Petitioner responded that HUBCO states that coal fired plants are at an inherent disadvantage as compared to other power plants, e.g., wind power plants because the net IRR to investors is lower in coal. The upfront tariff for coal offers ROE enough to achieve 17% pre dividend tax IRR. Wind upfront tariff, in comparison, offers 17% post dividend tax IRR. According to thePetitionerHUBCO recommended that withholding tax reimbursement regime should be provided to Coal IPPs to maintain level playing field and to promote low-cost generation in the country. According to the Petitioner, coal fired power plants offer a net of withholding tax IRR of 17% against 15.7% as stated by the Authority. Therefore, it is already in line with the IRR for wind upfront tariff as stated by HUBCO. The Petitioner contended that this return/IRR is excessive and unjustified. The government must promote indigenous resources for power generation and attract investment in these through higher offered returns instead of penalizing them. The same principle has been used in returns offered for local and imported coal power plants, therefore, why follow a different approach for other indigenous resources.

49. According to the Petitioner, HUBCO comments that coal based projects depend upon imported fuel that put additional guarantees from project companies towards the coal suppliers that have been missing from other thermal projects because either GOP is providing gas or local suppliers make RFO abundantly available. This supply chain risk justifies additional IRR. The Petitioner believes that all power generation projects have risks associated with fuel supply ranging from hydrological risk for hydropower plants to gas supply risks for thermal plants. This risk is part of inherent business risk in a project and is borne by investors. Thermal plants set up under the 2002 policy are currently suffering from non-availability of gas supply and there has been no additional return offered to them to cover for this supply chain risk.

50. The Petitioner further stated that HUBCO opined that concerns regarding 17% IRR for coal projects will hurt investor interest in hydel projects are without basis because such

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argument does not consider that hydel projects have 17% IRR on cost plus basis with a lot of risks passed on to the consumers. With fewer risks in hydel (and no fuel supply risk), 17% IRR for hydel projects offers a better risk-return mix to investors as compared to imported coal IPPs. The Petitioner further stated that offering the same return/IRR as hydropower projects to coal based power plants will divert investment from hydel projects, which are more environment-friendly and cheaper form of power generation than coal power plants. Moreover, hydropower projects carry relatively greater risk due to longer gestation period and hydrological risk, justifying a higher return than coal power plants. If hydro projects offer a better risk-return mix, then why is there a deficit of investment in hydro power plants? Therefore, it is not pragmatic to offer same return for both coal and hydel power projects.

Findings of the Authority

51. The Authority has considered the above submissions of the Petitioner as well as of the stakeholders and is of the view that thePetitioner's objection with respect to RoE arise due to misunderstanding of GoPs request and Authority's correspondingdetermination. GOP requested inclusion of RoEDC which was not incorporated in the 2013 determination in addition to allowing return of 17% for imported coal and return of 18% return for local coal. The GOP in its reconsideration has pointed out that

> *"NEPRA allows 'return on equity during construction (ROEDC)' and 'withholding tax' on dividends as a standard part of its tariff determination. However, these two items are missing in the subject Upfront Tariff. Given that the coal based power plants take 3-4 years as construction period, denying ROEDC will make the equity returns completely off market. Likewise, denying provision for Withholding Tax deduction on payment of dividends would reduce the promised IRR on equity"*

52. It is to be noted that the Authority has in past accounted for construction periods return (RoEDC) to all IPPs. Therefore, to be consistent with the previous decisions, the Authority included ROEDC in the Decision. Earlier the Authority while determining the upfront tariff in 2013 Upfront followed the international practice w.r.t returns and accordingly allowed 17% RoE for imported coal and 20% RoE for local coal. Unfortunately, no one opted for 2013 upfront tariff that prompted the GOP to request NEPRA to revisit the upfront tariff numbers/assumptions. The discussion of RoE vs. IRR is detailed in para 32 to 34of the decision dated June 26, 2014 which is reproduced hereunder:

> *"32. The Authority considered the comments of GoP and Engro Corporation. In Authority's opinion, IRR based return (which automatically accounts for RoEDC) does not provide reasonable flexibility to the investor for efficient drawdowns and payments to the EPC contractor. For making adjustment at the time of COD, a lot of information is*

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required, which involve a cumbersome time consuming process. Moreover this also does not provide incentive to the investor for early completion of the project. In order to provide incentive to the investor for early completion and efficient utilization of funds, the Authority has decided to allow ROE instead of IRR. The Authority considers that RoE is very sensitive to the Project drawdowns. To cite an example, with 20% IRR and 40 months construction period, one can calculate RoE as low as 23% and as high as 37%, by only changing project drawdowns. The Authority understands that, it is highly unlikely that project sponsor would get such extreme values of RoE. But the point is that the process of IRR based return is not only complex (at CoD stage wherein every dollar injection dates are noted) but also very subjective and prone to the analyst's bias. It must also be noted that the Authority does understand that to avoid complications, IRR based return can be standardized, but in doing so, NEPRA would have to set benchmarks in many stages of calculation, that will lead to micromanagement which are considered against the spirit of regulation. Further, the sponsor's needs to understand that return to be computed for upfront tariff is required to be based on generic drawdowns, which can't be tailored to individual projects . The bottom line of allowing return should always be to adequately compensate the investors for the risk they are taking, keeping in view comparable market returns and other incentives/safety offered to the power sector. Further, after gathering information on the subject from various sources, it was revealed that straight RoE not IRR is offered to power projects in many regions of the world including India and US. The Authority therefore, decides to allow simple RoE based on generic drawdowns and other reference parameter that also ensures adequate IRR i.e. 17% for imported coal and 18% for local coal other than Thar coal.

33. The Authority also feels that coal power projects both on local and imported coal are going to play very vital role to stop the hemorrhaging effect of load shedding on the overall economy. These plants are going to be multibillion dollar projects, which will not only improve balance of payments but also create jobs, develop ancillary infrastructure like roads, railway tracks etc., in addition to bringing substantial MWs to the National Grid. The Authority acknowledges that allowing attractive returns can lure the investors to coal power projects and hence usher a new phase of infrastructure development in the country. In view of the above, the Authority therefore, decides to revise the RoE as indicated in the table below

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Table - IX

Description	***RoE Allowed***	
	Local Coal	***Imported Coal***
220 MW 40 months construction time	*26.5%*	*24.5%*
660/1099 MW 48 months	*29.5%*	*27.2%*

34. With regards to allowing withholding tax on dividend, it must be noted that these taxes are required to be paid by the investors on the dividend declared. In the Authority's opinion, withholding tax effect shouldn't not be passed on to the consumers as it will further inflate the already high RoE. Therefore, the Authority decided not to allow the impact of withholding tax on dividends in the tariff."

53. From the above discussion, it is evident that the GOP requested the Authority to increase the total returns via inclusion of RoEDC and withholding tax. Thus the increase is RoE was within the scope of reconsideration therefore, justifiably within the NEPRA's jurisdiction to review.

54. Furthermore, the Authority observed that the Petitioner was of the impression that anIRR of 27.2% to 29.5% on imported and local coal was allowed which was not the case.Subsequently during the hearing the Petitioneracknowledged that it is in fact IRR of 17% and 18% allowed to imported and local coal projects respectively and not IRR of 27.2% and 29.5%.

55. ThePetitionerhad also objected to the 17% IRR allowed by the Authority. In support thereof, the Petitionersubmitted during the hearing and in the post hearing comments stated that"thousands of megawatt worth of power projects were set up under the 2002 Power Policy by foreign investors at 17% rate of return and this investment came in around 2006 when civil unrest in the country was at its peak. Rather than giving unrealistically high RoE for coal power projects, according to the Petitioner, it would be prudent to address the actual issues that all the energy sector such as circular debt"

56. The Authority observed that firstly, most of these investors that came under 2002 policy regime, were allowed IRR based equity returns not RoE. Further, during that time sponsors were allowed IRR of 15% not 17% as again, incorrectly quoted in the post hearing written comments.

57. In the opinion of the Authority, the issue of 17% IRR needs to be further delved upon and compared at the right syntax in order to have an apple to apple comparison. Previously, the Authority allowed the impact of withholding tax on dividends at 7.5 % to all projects, including the ones the Petitioner referred during the hearing. In 2013 and again in 2014

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upfront coal determination, this impact was not allowed (reasons given in para 34 of the determination reproduced above). Without withholding tax adjustment, imported coal IRR of 17% comes down to net IRR of 15.7% vs. 15% IRR allowed to other thermal (RFO/Gas) power plants (AES coal power project was allowed net IRR of 16% in 2009). Therefore, imported coal plants have an advantage of just 0.7% and not 2% IRR as stated by the Petitioner. If the ROEDC calculation is made on the basis of injection of equity from the start of the years as is being calculated in the standard formula, the allowed net of tax IRR works out even lesser and is around 14.53%.Coal preference/edge over other thermal source generation is justifiable as coal power projects both on local and imported coal are going to play a very vital role stopping the hemorrhaging effect of load shedding on the overall economy. These plants are going to be multibillion dollar projects, which will not only improve balance of payments but also create jobs, develop ancillary infrastructure like roads, railway tracks etc., in addition to bringing substantial MWs to the National Grid at relatively cheaper rates. In addition, as HUBCO pointed, circular debt has put additional risk on the investor which wasn't that significant before 2010. Also one must realize thatthere is no large scale coal fired power plant is in operation in the country.

58. The Petitioner claimed that a lot of super critical plants have been built in the neighboring region doesn't compensate Pakistan to have firsthand experience of large coal plants. It may also be noted that circular debt has increased the systematic risk or business risk of investors. The Authority further considered that in a single buyer model currently in vogue,investors do need an assurance of timely payment which the NTDC can't guarantee despite having legally binding and commercial agreement like PPA wherein late payments are categorically discouraged through imposition of liquidated damages. The investor can't diversify its portfolio. The Authority agrees with Petitioner that circular debt and other key energy issues have to be dealt on war footing. But the Authority also realizes that circular debt issue is eating away the reputation of government on its ability to pay legitimate claims in time. The question is what the Regulator can do to entice private investment in a market wherein the investors are weary and have valid concerns not to invest in the sector. Therefore, there is an element of uncertainty, for which investor expects to be compensated through lucrative returns.

59. The Petitioner further pointed out in the post-hearing comments that unprecedented high RoE for imported coal will hurt generation facilities utilizing indigenous sources such as hydro. This needs to be understood that Hydro power projects are allowed net IRR of 17%. For indigenous coal other than Thar, the Authority allowed net IRR of 16.65%(18% IRR gross) in 2014 upfront tariff determination. Investors in Thar coal are exempted from withholding tax on dividends therefore, its IRR net or gross will remain the same.

60. The Authority is of the opinion that it is incorrect to argue that since Hydro has inherent geological uncertainty and that there is hydrological risk, unlike coal, therefore, investment

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in hydel should be compensated as against coal. It is to be noted that hydrological risk are borne by the power purchaser for large scale hydroelectric power plants and hydro tariffs have provisions to address the uncertainty/risks inherently associated with hydroelectric power constructions.

61. After considering the Petitioner argument in support of Hydro, the Authority clarifies that hydro returns are better than the returns allowed to non Thar coal plant.However, the Authority realizes that the IRR allowed to Hydro should be at least at par with IRR allowed to Thar coal so that the returns allowed to various types of coal i.e. imported, local, & Thar are not more than what has been allowed to Hydro. Therefore, to encourage clean technology and to attract hydro investment in the region, the Authority therefore, assures that the return on investment in Hydroelectric shall enjoy at least similar returns as allowed by the Authority to Thar coal investors.

62. The Petitioner further stated that that two power companies based on Thar coal agreed to ROE of 20%, thus an ROE of up to 30% must not be permitted. The Authority observes that the Thar Power Company requested IRR of 20% not RoE of 20%. Therefore, such statement is factually wrong.

63. Lastly, it should be noted that the inclusion of RoEDC has not significantly increased the tariff. It has only added 0.27 cent/kWh in the overall tariff.

64. In view of the above discussion, the Authority concludesthat after apple to apple comparison in a correct syntax, the IRR allowed to Coal plants are not only reasonable when compared to IRR allowed on other fuel but also not excessive as contended by the Petitioner. Since the Petitioner's objection doesn't hold grounds therefore,is rejected.

Issue # 4

Whether the reduction in efficiency and increase in capital cost gives an unfair margin to investors?

65. The Petitioner stated that the revised determination in paragraph 26 states that Thar Power Company has installed European boilers at a cost of $1.35Million/MW. It is a matter of fact that supercritical technology projects (660MW Gross) in other South-Asian countries utilizing European, US, Japanese and South Korean OEMs and EPC contract have been set up at a cost of $1.45 Million/MW, whereas Chinese quotations were around $1 Million/MW. Thus setting up $1.35 Million/MW Chinese power plants in Pakistan is not in line with regional rates and norms and to the detriment of the end consumers. There could be an element of over-pricing.

66. The Petitioner informed that lowering efficiency standards from 42% to 39% without a corresponding benefit in economic costs is not worth the extensive environmental damage that will flow from the subcritical technology plants. Other countries in our region have

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opted for 42% efficiency. According to the Petitioner the revised tariff does not contain any environmental thresholds or safeguards even though the coal power generation facilities will pose a tremendous risk to the already rapidly increasing environmental degradation in the country. There has been no new technical data that has been made available in the past year since the notification of the original upfront tariff for coal, that would justify lowering the efficiency standards.

67. The Petitioner argued that the use of suboptimal benchmarks of 37%, 39% and 40% for 200 MW, 600 MW and 1000 MW plant sizes respectively, coupled with 16-28% increase in the capital costs for various categories of the plants, gives unfair margins to investors both on setting up the capacity and generation of energy.

68. According to the Petitioner, it is erroneous to assume that supercritical plants are not proven andreliable as according to the Petitioner Asian Development Bank funded feasibility study for a 2x600 MW coal fired plant at Jamshoro indicated a thermal efficiency of 40.3% (LHV, net) for the supercritical steam plant using an 80:20 blend of imported and local coal. Plants designed and operated on a single coal type are expected to operate at higher efficiency than ones for the blended coal mix. The ADB feasibility study indicated a lower capital cost per kW than the one contained in the Upfront Tariff. Sufficient literature exists to demonstrate higher thermal efficiencies for the thermal plants based on super critical technology.

69. M/S Riaz Ahmed &Company stated that to support its contentions with regards to project cost/efficiency, thePetitioner should provide reference to any feasibility study (done on site in Pakistan by foreign/Chinese experts) or observed financial close for imported coal project or have any signed EPC contract for imported coal fired project in Pakistan for coal fired project whereby international EPC contractor has stated terms which concur with Petitioner remarks and also investor/lenders terms agrees with remarks. According to the commentator, Chinese investors have concurrence on the NEPRA approved capital cost and efficiencies.

70. In response to the Petitioner's argument, HUBCO stated that for 660 MW size, 39% efficiency is what is being guaranteed by Chinese EPC contractors considering the relatively low project cost. According to the commentator research, 41.5% efficiency is achievable but that would have to have much higher project costs. Such high efficiency-project cost combination is not recommended due to net cost of electricity for the first few thousand MWs. 1.06 Million US $ per MW& 39% net efficiency offers the best cost / efficiency alternative for cost-sensitive countries. According to HUBCO, efficiency sharing mechanism (for achievement above 39%) provides incentive to IPPs to opt for better efficiency solutions and provide marginal relief to the consumers by remaining within the overall guidelines of the revised upfront tariff.

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71. HUBCO further stated that concerns raised by a few for higher carbon emissions due to lower efficiency is a valid concern. However, it is not relevant for the first few projects due to existing absence of coal usage in the country. HUBCO suggested that NEPRA can target higher efficiency projects at higher project costs once we have a reasonable low-cost electricity generation base established as a result of existing tariff. HUBCOsubmittedexcerpt that from Sargent &Lindy compiled report onefficiencies of US based coal power plants and also provided capital cost benchmark prevalent in India.

72. On the issue of project cost, PQEP requested NEPRA to consider and make appropriate and adequate provision for security costs in the Revised Determination.

Petitioner's reply to above comments

73. The Revised Tariff has increased the capital cost from $1.16 to $1.45 million per megawatt based on the premise that technical experts recommend European boilers instead of Chinese ones. The first question arises that a front end tariff is not made on the exact breakdown of a project. Either there has to be an actual determination whereby the specifics of the project, including a European boiler, are submitted to the Authority which in turn may allow the costs for the same. However, an upfront tariff by its very nature is fixed and does not allow for individual specifications of a project.

74. The Petitioner agree with HUBCO that US/European/Japanese technologies are very much needed. The Authority's determination therefore should include more details such as temperature range. A super critical unit can be at the low end or high end of steel grade, where cost and heat rate may vary significantly. It appears that the Authority did not have the benefit of a technical expert to undertake a technology comparison in this regard.

75. The European/US/Japanese project cost at US$ 1.45 Million/MW seems fair, however Chinese project cost at US$ 1.35 Million/MW is excessive. By comparison, Chinese cost at US$ 1 Million/MW (2014) seems more in line with regional costs for the same. In support the Petitioner provided 2012 report by Laboratory on International Law and Regulation which states that the over-night price of Chinese SCPC Power plant was about USD$ 0.6 Million/MW in 2010. Inflating at 3% for 4 years will make China-price at US$ 0.67 Million/MW. Adding 10% Freight cost will make Pakistan installed cost Chinese origin at US$ 0.75 Million/MW

76. The Authority had initially allowed the efficiency level of 42 percent, which it revised down to 39 percent. Everything else remaining the same, the capital costs should have come down as less efficient machines are being installed, yet instead lowered the efficiency and increased the capital costs. This drop in efficiency and the change in international energy environment should mean that capital costs should be going down.

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77. The lowered efficiency levels in the Revised Tariff have increased the environmental debt. The assumption here is that there is no cost to environmental pollution. It must be borne in mind that coal plants are being constructed globally and at the same time they are also being decommissioned. The world has realized the environmental debt of coal, and it is moving towards higher efficiency, lower environmental damaging plants and decommissioning the old plants.

78. According to the Petitioner, with increased awareness of the environmental damage of coal fired power plants, the banking industry started facing immense pressure in financing the coal plants as a consequence of which it devised a set of rules called the Equator Principles, which was essentially a risk management framework for determining, assessing and managing environmental and social risk in projects, intended to provide a minimum standard for due diligence to support responsible risk decision-making. All financial institutions agreed that if a project meets the Equator Principles, only then it will get the financing, not otherwise. The Petitioner further stated that it is absolutely crucial that all potential investors must comply with the Equator Principles in terms of their efficiency levels. There is a heavy cost to the environmental degradation.

79. Furthermore, the lower efficiency standards in the Revised Tariff should have led to cheaper energy as a result of compromising the efficiency levels. Yet, a look at the tariff reconciliation of the Revised Tariff reveals that of the total tariff increase, one- fourth of the tariff increase is from the drop in efficiency. The result is that lower efficiency is making electricity more expensive, not cheaper. Thus, the lower efficiencies of the Revised Tariff will cost the country and consumers dearly both environmentally and economically.

80. According to the Petitioner, HUBCO has not provided any technical data regarding whether their argument for lower efficiency is with reference to P1 or P2. The efficiency data sheet for the technology would have been helpful. The Petitionernoted that HUBCO agrees with our contention that US/European/Japanese efficiency stand at 42% and Chinese at 39%, which is acceptable. The aforementioned publication states SCPC ranges between 40-45% contrary to NEPRA and HUBCOs point of view that 39% is proven and 42% is prototype.

81. According to the Petitioner, HUBCO agrees that at 39% the Project Cost is US$ 1.06 Million/MW which has been all along the contention of the Petitioner. The Revised Tariff itself states that 42% is possible because it gives 'bonus' from 39% to 42%. The country cannot afford to pay European prices for low quality/grade Boiler and Turbine. The Petitioner suggested that the upfront tariff for coal may specify: i) US/Euro/Japanese 42% Efficiency with Project Cost US$ 1.45 Million/MW, and ii) Chinese 39% Efficiency with Project Cost US$ 1 Million/MW.

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82. The Authority has gone through the comments as well as submission of the stakeholders during the hearing upon the subject issue and it is observed that the revised efficiencies are net LHV at bus bar. A comprehensive literature review has already been mentioned in the Decision of the Authority. The Authority considers that the perception of the Petitioner that the Authority has increased the project cost is wrong. It needs to be clarified that the Authority has only estimated costs such as custom duties and Sinosure fee and included them in the project cost and Sinosure fee was a pass through item in previous determination.The Custom Duties along with other taxes is also a pass through item which is invariably allowed to the all projects as per actual at the time of COD. The custom duties and tax may vary from time to time; therefore, upfront assessment is difficult. On the insistence of GoP, the Authority has clarified and created certainty by including these costs in project costs which were pass through costs in any case. Further, as per the decision of the Authority, actual custom duties and Sinosure fee (upto certain level) will be allowed and that too subject to the submission of verifiable authentic documentary evidences. Sinosure fee can only be claimed if incurred otherwise, it will automatically be deducted from the project cost. The only difference between 2013 vs. 2014 determination is that in 2013 tariff a provision of Sinosure of 1% was allowed in the interest rate and 1% in the financing fee. In the 2014 Decision, the Authority caped it to the maximum of 7% of debt servicing. It is important to know that Sinosure fee has not been increased from 1% to 7%. It would not be a correct conclusion as the calculation methodology iscompletely different in both cases. Nevertheless, the financial impact of both methods isnot profoundly significant i.e. US$ million 0.07 per MW if 1% is considered both on interest rates and financing fee and US$ million 0.1 per MW if 7% of debt servicing is assumed. Overall impact on tariff is US Cent 0.062 per KWh. Unlike in 2013 determination, this time, Sinosure fee will be adjusted if it is below the 7% ceiling so that the benefit is automatically pass on to the consumers.

83. It is also observed that a provision for European brand boiler has been allowed only if the sponsor wants to bring the latest technology to increase plant reliability and operational efficiencies through anincrease in plant availability. Otherwise, this cost will also be deducted. It needs to be noted that the Euro boiler provision was first asked by the Thar Power Company (TPC). The TPC was subsequently asked to provide justification for requesting addition US$36 million or US$ million 0.1 per MW (inclusive of IDC and Financing fee) in the project cost for opting European boiler that is considered to be expensive as against the Chinese. In support, the TPC subsequently submitted a price quotation and also a report dated April 14, 2014 by world renowned Consultant RWE Power International Germany titled "Vendor Audit Report 300 MW Class CFB Process Owners& EPCC Bidders".

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RWE is the world leading operator and consultant in the field of coal power technologies In the report the RWE recommended that

"In view of process know-how with the challenging lignite classes Europe can look back on decades of experiences. The experiences were integrated as well in the development of the CFB technology which started from European Engineering companies like Alstom and Forster Wheeler" [the proposed boiler manufacturer of the Company] and Further states that

"Regarding *to the long-term experiences and the know-how of utilizing high moisture lignite, the interviewed European Vendors seem to be a good choice for the project as process owner and the boiler manufacturer"*

84. The Authority after reviewing the TPC request and the RWE recommendation agreed to provide a provision of Euro boiler to the max of US$ million 0.1per MW as TPC is going to be a first project on Thar coal, therefore, every effort must be taken to ensure its reliability and smooth functioning. To provide level playing field, the European option provision was extended to Non-Thar coal plants. And also because the Authority increased the plant availability from 82% to 85%.The following table will illustrate the difference between the Project cost allowed in both 2013 and 2013 upfront tariffs:

DESCRIPTION	**Original**	**Revised**	**Difference**
660MW Imported Coal Foreign Debt	US$ Million Per MW		
Capital Cost	1.06	1.06	No Change
European Boiler Provision	N/A	0.10	0.10
Customs Duty/Taxes (Subject to actual)	Pass-through	0.05	0.05
Financing Fees & Charges	0.03	0.03	0.00
Sinosure Fee (Chinese Financing only)	Pass-through	0.10	0.10
Interest during Construction	0.07	0.11	0.04
Project Cost	**1.17**	**1.45**	**0.28**

85. The Petitioner further stated that the ADB funded 1320 MW (660 × 2) Jamshoro coal power project has a net efficiency of 40.3% vs. 39% efficiency allowed for similar plant technology.The Authority assert that again this issue needs to be looked into proper perspective as thePetitioner failed to realize that feasibility study of Jamshoro power project indicate a total project cost of $2,207 million or US$ 1.67 million per MW. For correct comparison, costs like FGD for Jamshoro's existing units ($160M), O&M service contract ($40M) have been excluded. Thus the total cost for Jamshoro works out to be $2,007 million for 660x2 MW project of US$ 1.52 million per MW. Even this cost is not

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comparable with the US$ 1.45 million per MW allowed by the Authority as the feasibility study state that $1.52 million per MWcost doesn't include Interest During Construction (IDC), financing fee and other exclusions i.e. Land acquisition, resettlement cost for ash ponds, preparation of environment impact assessment, cost of obtaining permits/licensing, owner's cost duties and taxes etc. which are already a part of the approved $1.45 million per MW. If IDC, custom duties, financing fee, Sinosure etc. are added, then the total project cost per MW will be $ 1.910 million (assuming the same &per MW cost as allowed to 660 MW category). It is also important to mention that if a plant achieve net thermal efficiency of more than 39%, an automatic sharing mechanism will be triggered.So a 40.3% efficiency as proposed by the Jamshoro power plant will for the payment purpose deliver energy at 39.7%. If the cost of $ 1.910 million per MW is taken with the efficiency of 39.7%, the overall net increase in tariff will be more than 80 paisas per kWh. Even if an efficiencyof 40.3% is assumed while disregarding the sharing mechanism, the overall increase in tariff will still be more than 60 Paisas per kWh. This is the reason why this project has so far shown no interest in opting upfront coal tariff.

86. It is further pointed out that there is a tradeoff between efficiency and project cost. The higher the efficiency the higher the cost. After realizing that the NEPRA's 2013 approved cost to efficiency tradeoff is out of line with the market conditions, the Authority had two choices, either to increase the project cost substantially to achieve efficiency of 42% LHV net or to reduce the efficiency so that coal projects become viable withinthe approved project cost. The Authority adopted the later. At the same time, the Authority was cognizant about the possibilities of achieving better efficiency with the same cost bracket. In order to address that, the Authority provided a sharing mechanism in case efficiencies are hit beyond the approved minimum benchmark. This sharing mechanism is beneficial for both the power purchaser and power producer. As it incentivize the IPP to better negotiate with EPC contractors to bring efficient plant with the same cost bracket. For power consumer, it introduced an upward efficiency sharing mechanism that wasn't incorporated in the last determination.

87. The Petitioner further stated that low efficiency would increase the carbon footprints of the country. The Petitioner should realize that the power plants are required to comply with relevant environmental agencies laws and regulations. All environmental standards have to be met. Secretary Water and Power during GoP Reconsideration hearing held on April 09, 2014 confirmed that all coal based generation will have to meet World Bank Environmental Standards for Emissions and local standards for Sox, NOx, and PM10 and technology is available to ensure compliance. Secretary Water and Power further informed that NEQS in Pakistan are essentially similar to World Bank standards and all plants shall have to comply

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with the NEQS limits. It has to be noted that Pakistan's carbon footprints are among the lowest in the worlds about 0.46%[1] (India 5.69%) of the world total.

88. It may also be noted as under upfront tariff regime, technical and cost benchmarks are established based on averages. Whilst establishing upfront benchmarks one needs to be careful not to base its entire assumption sets on outliers'i.e. exotic plants with high efficiency high cost orcheaper plant with low efficiency and availability. Similarly,a Regulator shouldn't base these assumptions (cost/technical benchmark) on few established power plants. Of course, one can get useful insight from SC/SubC plants established around the world. But sadly, even that can't be done due to confidentiality associated with extracting such information. No one presented such data during the proceedings. In addition, no local knowledge is available to ascertain and recheck key financial technical numbers. It is pertinent to mention that there are tons ofinformation available on the internet regarding deals signed between companies for setting up supercritical power plants. But that information itself is cursory and lack detailed information necessary to compare the approved benchmarks. Mere citing of project cost (which are mostly being EPC cost) and efficiency is not enough to make realistic comparison with the approved cost. Such information has to be checked to know whether the cost mention is the total project cost as defined by NEPRA. Whether the efficiency mentioned is in LHV/HHV, after or before the adjustment of auxiliary consumption. What is the plant availability?

89. The Authority requested the KP government to share EPC contract and other project cost detailed information of similar coal fired power plants discussed by Mr. Raziuddin on behalf of KP government in the public hearing dated October 14, 2014. Mr. Raziuddin while citing non-disclosure nature of the coal agreements excused to share such data.

90. The Authority has observed that Central Electricity Regulatory Commission (CERC), India has also done the same exercise and established power plant cost benchmark.According to CERC, NEPRA's approved US$ 1.45 million per MW is similar to what in India is offering after adjustment of inflation, other cost and India's technological advantage in coal plant operation[2].

91. In view of the above discussion, and without providing concrete evidence to support its claim, the Petitioner failed to justify that the 2014 tariff determination provides undue favors to the investor, therefore is rejected.

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[1] http://www.eia.gov/countries/country-data.cfm?fips=pk

[2] http://www.cercind.gov.in/2012/regulation/Benchmark_Capital_Cost_for_TPS.pdf

Issue # 5

Whether the benefit of upfront tariff may be restricted to supercritical technology only.

Issue # 6

Whether Subcritical technology should be excluded from the upfront tariff or it may be limited to first 1000 MW, thereafter, an upfront tariff may be announced based on the experience.

92. The Petitioner in the review petition and comments dated 20th October 2014 submitted that in order to encourage the potential investors to opt for supercritical technology, the benefit of Upfront Tariff may be restricted to such technology only. The Petitioner further submitted that to discourage installation of subcritical technology which is outdated, expensive, less efficient and more harmful to the environment, it may be excluded from the Upfront Tariff. Alternatively, the benefit of the Upfront Tariff may only be limited to the first 1000 MW of subcritical technology.

93. None of the stakeholders offered comments on the above issues. Although NEPRA has announced project size of 220MW with 37% minimum benchmark efficiency (subcritical technology) for imported/local coal, the LOIs so far issued are all for 660MW or 2x660MW configuration for which the minimum benchmark efficiency is 39% (supercritical technology). So far there is no interest shown by the investors to set up coal projects with subcritical technology except the mine mouth coal plants in Thar coal reserves. Due to the peculiarity of the Thar lignite coal, Engro Group, in the first phase, is working on installation of 2x330MW power project with subcritical technology. In the second or third phase of their expansion, they have plans to set up power plants employing supercritical technology in Thar.

Finding of the Authority

94. The Petitioner stated that the benefit of upfront tariff may be made conditional with achieving financial close as done in case of wind upfront tariff. It needs to be understood that the whole upfront tariff is valid for two years. After that it is expected that the Authority will reevaluate the entire assumptions set such as efficiency, IRR, Project cost etc. Relevant para is reproduced hereunder :

> "IX- *This tariff shall remain in force for a period of 2 years from the date of notification in the official gazette. The revision in upfront tariff for next validity period shall be undertaken at least six months prior to the end of the validity period and in case upfront tariff for the next validity period is not notified until the commencement of next validity period, the reference tariff parameters as per this determination shall continue to remain applicable until notification of the revised upfront tariff*"

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95. This tariff has now been notified on October 01, 2014 therefore, it will remain valid till September30, 2016.As regard to the suggestion of the Petitionerthat the benefit of the upfront tariff should be made applicable only to the extent of first 1000 MW subcritical technology, the Authority is of the view that the Petitioner concerns is this regard have already been taken care of through reduction of validity period from 6 to2 years. It is expected that during the existing validity period for 2 years it will be difficult to go beyond the proposed cap of 1000 MW. The Authority considers that in the next review the reference parameters as given in this decision will be modified/updated on the basis of actual data / information. However, the Authority still consider the suggestion reasonable and to further increase the comfort level of the Petitioner, decided to restrict the induction of subcritical technology to first 1000 MW only for imported coal.

Other Issues

96. It has been observed by the Authority that several other issues in addition to the already discussed were also raised by the stakeholders during the proceedings of the instant review petition. The Authority considered it appropriate that all such issues should also be dilated upon by the Authority. Since all these issues pertain to the same Decision of the Authority, therefore, it is considered appropriate to give findings on such issues within the scope of instant determination for the purpose of clarification:

i. Cost recovery mechanism of Standalone Jetty

97. PQEP vide its letter dated July 16, 2014 requested the Authority certain clarification with regards to the decision of the Authority regarding reconsideration request filed by Government of Pakistan in the matter of upfront tariff for coal power projects dated June 26, 2014.

98. The PQEP stated that the Authority has allowed jetty cost to be recovered through energy payment that is based on dispatch. The company implied while referring to the relevant paras of the Decision that the mechanism of recovering jetty cost through fuel payments are for common jetty and doesn't cater for standalone jetty cost, the Company plans to exclusively build for its 1320 MW imported coal fired power project. The Company further stated that if the cost of self-use jetty is recovered through energy payments, then this arrangement will severely affect the bankability of the overall power project. Therefore, the company requests NEPRA to clarify this aspect of the Decision with particular reference to the treatment of recovery of jetty related cost (both fixed and variable) in the particular/unique cases of integrated self-use dedicated coal jetties forming part of coal fired plant.

99. On the issue of jetty HUBCO commented that NEPRA's upfront tariff classifies the jetty costs in the coal handling costs in terms of US $ / ton. This can be true for common-access jetty but not for a plant specific barge / mother vessel jetty. It is recommended to make jetty a

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part of project costs and O&M rather than a part of coal handling costs to be paid in US $ / Ton. Similarly, plant specific railway siding should be a part of project costs.

100. In continuation of the submissions made by HUBCO previously, HUBCO recommends that developers should be given a choice to find the most cost effective solutions as long as the net cost of those solutions is equal to or less than the most viable open access alternative. We do appreciate that Jetty has been built into the Upfront Tariff and this is a very encouraging decision from NEPRA. Almost all coastal plants have some mode of infrastructure involved in coal handling post CIF and NEPRA has allowed building such infrastructure into tariff. Without such infrastructure, investment in the coal plants will not be viable.

101. However, without following the traditional approach of a mother-vessel jetty as mentioned in the upfront tariff, HUBCO has been looking at cost effective solutions. One of such solutions is a barge jetty that can be constructed at low cost providing the overall benefit to the consumer. HUBCO would like to elaborate this case by presenting the following as alternative logistics solutions:

1) Alternative 1: Coal unloading from ship takes place at public-access port and the coal is transported through trucks to a coastal plant
2) Alternative 2: Coal unloading from ship takes place at public-access port and the coal is transported through train to an inland / coastal plant
3) Alternative 3: Coal unloading from ship takes place at public-access port and the coal' is transported through barges to a coastal plant (case of our plant during Monsoon season)
4) Alternative 4: Coal unloading from ship takes place in open sea and the coal is transported through barges to a coastal plant (case of our plant during non-Monsoon season)
5) Alternative 5: Coal unloading from ship takes place at on site jetty (case of Gadani)

102. According to HUBCO, the above need to be considered for the framework for jetty infrastructure in line with cost break-up as determined in upfront tariff and is given as follows:

Coal FOB Price
Shipping Freight & Insurance
Other Costs including LC and Port Handling
Freight for in-land / on-sea logistics
Jetty Costs / plant's infrastructure for coal handling due to train

103. The Petitioner, in its comments dated November 5, 2014 also raised this issue and stated that it is unclear if a distinction has been made between projects that will have their own jetty versus those that will not. Furthermore, there is also no clarity on whether the

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coal jetty cost is an across the board increase being allowed to all projects. According to the Petitioner, if the capital cost of a self-use jetty will be allowed, then there ought to be a commensurate reduction in the operating cost allowed as obviously there will be no jetty use charges to be paid. On the other hand, setting up individual jetties for projects is a cost-ineffective strategy and will penalize consumers.

104. With regards to inclusion of Jetty cost, it is to be noted that the jetty cost of US$ 188 million was allowed in 2009 to AES Pakistan's 1320 MW coal fired power project. This was the only available information with respect to the jetty cost therefore the Authority decided to rely on this cost for assessment of dedicated/standalone jetty as well as for common jetty facility to be constructed at Gadani Power Park. The jetty fixed cost was to be recovered through capacity payments and variable part through energy purchase price. After adjusting for inflation and also after reviewing information submitted by PQEP with regards to Jetty cost, the Authority allowed in the Decision a total cost US$223 million (that included financing fee and IDC). The jetty cost was levelized through entire 30 years project life and a cost of $ 9.46 per ton was allowed. The Authority in its prescribed mechanism for calculating fuel cost component already provided for "other cost", which include port handling cost. The Authority considered this cost is also related to the coal handling at port, therefore, included the US$ 9.46 per ton levelized jetty cost in the "other cost' as part of imported coal price.

105. While deliberating on the allowance of jetty cost the Authority considered a common jetty facility expected to be established and operated by a separate entity, for which a separate fee will presumably be charged to the power plants. Since the fee is expected to be variable, on a per ton basis;therefore, jetty cost was made a part of coal handling to be recovered through energy purchase price. The relevant paragraphs of the Decision are reproduced below. For a self-use jetty it was understood during the proceedings that the total jetty project cost was to be recovered as part of capacity payments and variable cost to be recovered energy purchase price.

> *"44 The Authority being cognizant of the fact that in order to cater for the needs of plants to be set up on imported coal, jetty will have to be constructed. In view thereof, the Authority considers it advisable to incorporate an indicative common jetty cost in the upfront tariff determination".*
>
> *47 The Authority is also aware of the fact that a standalone jetty for one project will cost more than the common jetty proposed at Gadani.*

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48 At this stage, where jetty cost can't be finalized and advantage of common facility can't be gauged, the Authority is constrained to adopt a jetty cost of US$223.5 million"

49 The jetty cost including its O&M cost per ton will be subject to adjustment on the basis of verifiable documentary, evidence. The Authority expects that before requesting an adjustment in jetty cost, the Petitioner will have to thoroughly investigate into the possibilities of changing the design of jetty in a way that least cost and reliable coal offloading facility is arrived through transparent competitive process while taking on board the PPIB, Pakistan Navy, Pakistan Coast Guard, Ministry of Ports and Shipping and clearance from all the relevant departments.

106. This needs to be further understood that in para 49 of the Decision, the Authority prescribed certain conditions for proposing a coal offloading facility by designing jetty to ensure minimum expenditure is incurred by conducting transparent competitive process. These conditions were set while keeping in view the fact that the individual jetty cost will vary from project to project basis. The Authority had no concrete evidence to put a realistic benchmark for jetty cost that could be capped at a certain level just like the Authority did in power plant project cost and other known reference parameters. The competitive bidding and the necessary approval was required to arrive at a prudent cost of self - use jetty or similar coal off loading facility in lieu of jetty that ensure reliable coal supply, to be adjusted at actual on COD. As stated at para "49" the cost of standalone jetty shall be determined and allowed by the Authority on case to case basis subject to provision of verifiable documents to the satisfaction of the Authority.

107. The Authority therefore, clarifies that the US$ 9.46 per ton jetty cost is an indicative cost for common jetty like the one expected to be developed for 6,600MW GadaniPower Park. The common jetty is expected to be built and operated by a separate entity, and a separate fee, possibly on per ton basis will be charged to the power plants build inside the Park.

108. The Authority being cognizant of the fact that the recovery of costs in the case of dedicated jetty or similar coal off loading facility at portwill be different because the fixed portion of jetty project cost has to be recovered through fixed capacity payments whereas, variable operational cost of jetty will be recovered through energy purchase price; both of which will vary from project to project basis. It is to be noted that this mechanism of jetty cost recovery has already been prescribed to AES Pakistan Power Limited 1320 MW imported coal fired power plant in its 2009 determination. In order to cater for the cost of dedicated jetty a provision was made for adjustment of cost at the time of COD. On the

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basis of verifiable documentary evidence, the cost of dedicated jetty will be determined and fixed and variable cost will be reflected under relevant tariff components i.e. capacity and energy charges respectively. For adjustment in dedicated jetty cost at the time of COD the investor will have to demonstrate that reasonable efforts were made in finalizing the design of jetty or similar coal offloading facilities to minimize construction cost of jettyor similar coal offloading facilities while taking on board the PPIB, Pakistan Navy, Pakistan Coast Guard, Ministry of Ports and Shipping and clearance from all the relevant departments.

109. During the discussion, some of the commentators pointed out why jetty related facility has not been provided to non-coal thermal power plant i.e. RFO/gas. The Authority clarifies that large coal power plants operations have certain peculiarities that are not prevalent in other thermal power plants. For large coal power plants, jetty related coal off loading facilities are an integral part of power plant infrastructure as the power plant has to ensure continued high end base load operations that required a reliable coal off loading facility i.e. jetty. The Authority further consider it important to mention that due to the scale of large coal units, coal off loading facilities at existing ports of Pakistan are not sufficient to cater for its coal requirement. Further, there is a separate established oil market wherein companies like PSO, Shell etc. provide a reliable fuel supply to the power plant at a price that already includes fuel off loading/port handling cost. Whereas, in coal no such market exists where individual fuel marketing companies can guarantee such a huge quantity of coal to ensure reliable operation. Since the gas consumed in power plants comes from indigenous gas resources therefore, gas off loading facility at port are not-existent.

ii. Sinosure fee-Should there be a Cap?

110. HUBCO submitted that the caps on loan premium (4.5%) and Sinosure fee (7%) must be removed considering that there is no precedence of project finance to Pakistan based companies from China. These rates should be reviewed by NEPRA for all IPPs. Initial indication dictates a higher premium for both interest and insurance will be applicable as compared to what NEPRA has given in Upfront Tariff. China Three Gorges project attracted a lower than 7% fee and the same may have been used by NEPRA for coal IPPs as well. According to HUBCO, this approach of NEPRA has a solid reference, however, the case in future will be different due to project finance nature of all new projects. According to HUBCO, Sinosure has indicated a change in its pricing policy and any such change should be properly incorporated for coal IPPs.

111. PQEP submitted that the cap of 7% is not in line with the comparatively higher prevalentavailable rates from Chinese insurance agency. PQEP further stated that apparently,the approved Sinosurefee only cater for construction period, whereas, according to PQEP Sinosure is also mandatorily required during the repayment period after COD. PQEP

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informed that the one-off treatment of Sinosure fee by NEPRA may have been appropriate in export credit scenarios and in some special cases determined by Sinosure. However, according to PQEP, it is inappropriate for normal long term project finance/investment scenarios, such as the Project, where the borrower is a majority Chinese-owned company.In view of the above, PQEP suggested that Sinosure fee should be recoverable at actual, in the manner and to the extent actually charged by and paid to Sinosure and there should be no cap. PQEP advised that for clarification and confirmation, NEPRA can directly engage with Sinosure to confirm and verify the actual figures being quoted and charged by it.Additionally, PQEP also requested to allow Sinosure insurance for equity portion of project due to high political risk.

112. In response, the Petitioner stated that the basis for the justification of the 7 percent Sinosure fee and its calculation method have not been shared. The insurance market norm in the region is 1 to 3% and not 7%. According to the Petitioner, in the presence, of power purchase agreements and implementation agreements, Sinosure fee of 7% is very high.

113. The Authority considers that China Export & Credit Insurance Corporation (Sinosure) is a state-funded policy-oriented insurance company with independent status of legal person, established for promoting China's foreign trade and economic cooperation. It may be noted that previously in 2013 tariff determination, the Authority allowed Sinosure fee @ 1% on both interest rate and financing fee. This time as explained above, Sinosure fee is capped upfront lump sum @7% of debt servicing (interest + principal) which was actually requested by Thar Power Company. During the hearing, CEO of Engro stated that albeit TPC is finding it hard to negotiate with the Chinese agencies to lower the premium to the approved rate of 7%, however, he was hopeful that TPC will be successful in this endeavor and therefore confirmed that TPC wouldn't ask for removal of the 7% cap. PQEP, HUBCO and all the proponent of removal of Sinosure cap failed to provide substantial evidence to prove that the fee is higher than the one approved by the Authority. Therefore, in view of the above, the Authority maintained the cap at 7% as done in the Authority's determination.

114. The Authority also considered the Petitioner assertions that Sinosure fee ranges from 1% to 3% and not 7%. The Authority clarifies that comparison of Sinosure fee of 1% to 3%vs.7% is misleading. As stated above, 1% was on interest rates for the entire repayment period on the outstanding balance + 1% on financing fee as allowed in the 2013 tariff determination whereas, 7% is one time cost to be calculated on the debt servicing (principal + interest). The impact of both are somewhat similar.The Authority therefore, considers this explanation sufficient to address the Petitioner's concerns.

115. The Petitioneralong with KPK government raised a point that why NEPRA has skewed the investment in favor of Chinese financing. They complained that such opportunity should be provided to whoever want to bring funding from wherever they prefer. Therefore, they

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argued that such fee should also be allowed to investors who wants to bring American and European banks into this sector.

116. The Authority considers the argument put forward by the stakeholders and reasonable. However, the Authority also consider it necessary to mention that as a Regulator it relies on the input of stakeholders. During the 2013 and 2014 tariff proceedings, NEPRA provided opportunity to all the stakeholders including KP government to assist the Authority along with evidence, if any. Since during the proceeding no evidence in this regard was presented; therefore the Authority was unable to fix the terms of payment of such export credit insurance fee of non-Chinese financing on its own. The Sinosure fee issue was first raised in 2013 therefore, it was amicably addressed both in 2013 and 2014 determination. According to some of the investors, only Chinese equipment manufacturer can match NEPRA approved technical benchmark under the approved cost bracket. If exports are from China then Sinosure will be involved as Sinosure is mandated, in accordance with the Chinese government's diplomatic, international trade, industrial, fiscal and financial policies, to promote Chinese exports of goods, technologies and service, especially high-tech and high value-added capital goods like electromechanical products, and national enterprises' overseas investment, by means of export credit insurance against non-payment risks. The Authority considers that it is highly probable, that these plants will be sourced from China nevertheless, in pursuance of justice and fairness the Authority also allows such insurance fee (if any) to all other such creditinsurance companies' i.e. COFACE (France), Euler Hermes Kreditversicherungs-AG (Germany), Ex-Im Bank (USA) etc. as long as it is less than equal to lump sum (1 time) 7% of the debt servicing as allowed to Sinosure subject to provision of authentic documentary evidence.

iii. NTDC's Clarification-1 Whether coal plants always have to be dispatched at 85% despite the fact that sole criteria of dispatch is determined to be merit order?

117. National Transmission and Despatch Company (NTDC) vide its letter received on September 05, 2014 requested certain clarifications with regards to Decision of the Authority regarding Reconsideration Request filed by GoP in the matter of upfront tariff for coal power projects (hereinafter "the Decision").

118. NTDC pointed out that in the Decision, the plant factor has been assumed at 85% while the merit order was to be taken as a sole criteria for dispatch of all coal based power plants. NTDC was referring to para#55 (III) (a) page # 19 of the Decision of the Authority which is reproduced hereunder:

> "...the power purchase will have to guarantee a minimum off take of power at certain plant availability, which in the instant case is 85%."

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119. It is an established fact that the minimum offtake guarantee is given by IPP / power producers to power purchaser and not the other way round. The fact of the matter is that these plants will have to ensure minimum plant availability of 85% (as clearly indicated in the order part para VII, page 36 of the Decision) and power purchaser will dispatch these plants based on merit order. Therefore, further clarification is required and para # 55(iii)(a) of the Decision may be read as

> "Large coal fired power plant around the world are mostly base load plants. The primary reasons are that there are relatively cheaper to operate and that cold, warm and hot start-up not only take time, but also significantly reduce life, efficiency and reliability of the plant. Since the proposed plants are expected to be dispatched at base load therefore, there is no need to have a two part tariff as *the power producer will have to guarantee a minimum plant availability, which in the instant case is 85%*. The base load operation therefore, addresses the concerns (if any) of the coal suppliers and IPPs."

iv. NTDC's Clarification-2Whether NEPRA is favor of passing on to the consumers the Liquidated Damages (LDs) of the IPPs payable by it to the coal suppliers

120. NTDC further informed that in para 55 (vii) page # 20 of the Decision, NEPRA has observed that the issue of transfer of LiquidatedDamages (LDs) to the power purchaser in case of change from base to lower load operation needs to be "addressed in the PPA"

121. The Authority considers that the issue of LD between coal supplier and power producer is going to be governed through Coal Supply Agreement (CSA). The Authority is of the opinion that power producer is required to maintain a coal inventory of 90 days operation at 100 % load. The cost of maintaining such a high inventory is allowed to the power producer in the shape of working capital therefore, the Authority feels that the risk for not off taking the required coal quantity from the coal supplier has been reasonably mitigated. Allowing any additional coston account of LDs to the coal supplier will be unfair and unjust to be passed on to the power purchaser and ultimately to the end consumer. The Authority further considers that these plants are base load plants, therefore, it is expected that these plants will operate at a high plant factor and there will be hardly any possibility that the power producer will not need the minimum coal off take commitment. In view of the aforesaid reason, the Authority feels that it is up to IPPs to negotiate accordingly to mitigate such risks. The Authority therefore considers that the commentators comments in this regard do not merit consideration of the Authority therefore are being disregarded.

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v. Availability of 85%

122. Thar Power Company stated that the power producer is requiredto ensure guaranteed availability factor of 85%, whereas,coal based power plants face severe teething problem in their initial 2-3 years due to highly complex handling requirements of solid fuel. Complexity increase manifolds with more complex coal such as lignite fuels. This results into requirements such a major inspections during first year of the operation and more frequent outages during first 2-3 years. Thus availability factor for the power plant should be 75% for year 1, 80% for year 2 and 85% from year onwards."

123. HUBCO stated that NEPRA's upfront tariff dictates availability to be at 85%. This number needs clarification and needs to be reviewed in line with various factors as defined below. The 2 factors which have been acknowledged IA other PPAs need also to be acknowledged in coal PPA. These factors acknowledge that 85% availability is valid for any year (from year 2 onwards) which does not have major maintenance. These factors are following:

- Major Maintenance Year: During a major maintenance year, the plant needs to be shut down for an extended period. This is acknowledged in previous PPAs. The availability in a major maintenance year will be less than 85% without penalties to IPP
- During the first year, the forced outage will be higher. A First additional Year allowance of 0.75 multiplier needs to be multiplied with the actual forced outage utilization for the first year of operation

124. According to HUBCO, Upfront Tariff and PPA need to acknowledge that coal based plants have a mandatory periodical requirement of running at partial load as boilers need to be cleaned for ash and other maintenance needs to be done. This mandatory Online Plant Maintenance needs to be acknowledged in PPA and must not affect the forced outage allowance given in PPA. Under some circumstances, a unit will have to run at partial load for 12 hours on weekly basis. Factors like these will have to be adjusted in PPA and can be used by NPCC for overall planning of electricity off take from the IPP.

125. HUBCO requested that the flexibility should be given to the developers to choose relatively lower scheduled outage period in exchange for higher forced outage hours as long as total allowance is equal to 15%.

126. Having considered the comments of the commentators, the Authority noted that the comments raised two major issues. The first issue relates to the annual availability of the coal based power plants in view of the maintenance of plants. The Authority notes that even if 45 days annual maintenance period is kept, the annual availability can still be maintained above 85%. The second issue relates to the teething problems in the initial years which might result in higher outages. The Authority notes that a properly designed power plant must keep such eventualities in view to meet the required availability targets which

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are normal for the coal and oil base power plants. The initial years therefore cannot be given any flexibility over the requirement of 85% availability. The Authority decides to keep the same availability factor i.e. 85% as in the earlier determination.

vi. Auxiliary Load

127. HUBCO informed that NEPRA has reduced the maximum auxiliary load for a 660 MW Gross unit from 9% to 8%. This is unacceptable considering the penalties defined in PPA associated with non-compliance of resultant net capacity. HUBCO requested that auxiliary load limit be changed to 9%. This will have no impact on consumers considering that any saving in auxiliary load will be passed on to off-taker for the purpose of tariff. On the positive side, the additional allowance of 1% will make IPPs free of risks associated with this challenging number.

128. According to HUBCO, PPA currently defines the Contract Capacity (at mean site conditions) equal to 607 MWs (for a 660 MW plant) after adjustment of 8% auxiliary load. PPA also defines that if initial Tested Capacity is lower than Contract Capacity (after adjustment for mean site conditions), then plant will be rejected unless IPP asks for a revision in Contract Capacity which is associated with prohibitive LDs enough to bankrupt the plant.

129. HUBCO further stated that the contract capacity has been defined at mean site conditions by NEPRA for the purpose of Upfront Tariff. This is unacceptable as Gross capacity will change from location to location. The tariff should be based upon Gross capacity at ISO conditions.

130. The Authority considers that auxiliary loads are continuously on the decline due to more efficient machines/equipment. Therefore it is expected that the power producers would strive for putting up more efficient drives to achieve NEPRA's target auxiliary load. Similarly the comments of HUBCO about the gross capacity Vs capacity at the site are not acceptable due to the same arguments as stated above. The Authority decides to retain the auxiliary factor of 8%. It is further clarified that both the gross and net capacities as indicated in the Decision are referred to mean site conditions.

vii. Heat Rate Testing

131. HUBCO stated that NEPRA wants to conduct heat rate testing for sharing the advantage resulting due to better-than contract efficiency. These tests and resultant efficiency sharing are not part of PPA.According to HUBCO, not only such test needs to be made an integral part of PPA but also clarification needs to be given on the broad mechanics of such test. HUBCO further stated that Efficiency-gain sharing can take place through one of the following mechanisms:

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1) Actual efficiency-gain sharing on annual basis: this means that, from the energy invoicing and fuel inventory records, IPP will calculate the actual efficiency for each contract year and share the savings through a supplementary invoice with off-taker in line with NEPRA's tariff schedule after adjusting for yearly heat degradation curve, partial load adjustment curve and start-up coal consumption.

   Our view is that the presence of factors (such as use of same coal for start-up fuel) would reduce integrity of savings calculation on yearly basis. Therefore, HUBCO don't recommend this as preferable option.

2) One time efficiency test post COD: a one-time efficiency test can be conducted post COD with defined inventory usage and at full load to determine the heat rate. The heat rate calculated as a result of such test will be locked for the purpose of efficiency-gain sharing mechanism. Sharing mechanism may lead to a higher contract heat rate resulting into one-time true-up of Fuel Cost Component. HUBCOwitnessed the same in case of Hub Plant and recommend this as our preferable option. Yearly heat degradation and partial load adjustment will apply on the revised contract heat rate.

132. HUBCO need clarification from NEPRA on how will these tests be conducted. Under any circumstance, the protocols of such test should be clearly defined to ensure transparency for the consumers and fairness to IPPs.

133. The Authority considers that heat rate is a critical parameter affecting the overall tariff therefore, in order to pass any savings on account of better efficiency it has been decided to conduct a onetime heat rate test post COD. The Authority has decided that any efficiency lower than the approved efficiency will not be accepted whereas, gains on account of better efficiency only will be considered for sharing. The Authority alsorecognizes that the requirement of heat rate testing is not a part of present power purchase agreement (PPA), therefore the Authority intends to direct the power producer and purchaser to include such tests as part of their PPA. The necessary protocols for conducting such tests and appointment of independent engineers should also be defined in the PPA after getting the approval of NEPRA. The PPA should also include the applicable annual degradation curves, partial load adjustment curves and start-up costs as per standard practices.

viii. Start-Up and Thermal Cycling

134. HUBCO stated that start-up is already incorporated in PPA and start-up charges based upon Hot-Start, Warm-Start and Cold-Start will be duly made a part of PPA. So far, no PPA restricts the number of start-ups and as long as IPP is compensated for start-ups, the off-taker can shut-down / start-up the plant. This has created a problem of Thermal Cycling for existing boiler based plants. Such problem has resulted into heavy boiler capex over and

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above the normal opex for Hub Power Plant. Such capex is not part of tariff and is being paid from the ROE pool affecting IRR for shareholders.

135. HUBCO requested that PPA of coal plants must acknowledge that technical limits will have restriction on number of start-ups that can be requested by off-taker. EPC Contractor's recommendations must be built into the schedules. Some change in the write-up of PPA will also need to be made to prevent Thermal Cycling problems in new plants. HUBCO also requested to acknowledge that coal based plants must run as base load plants and should not be seen in the context of merit order being applied by NPCC currently.

136. The Authority agrees with the commentators in recognizing that the coal based power plants have special characteristics which limit their start-up and thermal cycling behavior. Therefore, the power purchaser needs to conduct extensive deliberations on this account with the power producer, so that prudent utility practices are strictly followed for the operation of these power plants. National Power Control Centre (NPCC); the operator of the network should also develop a protocol for handling start-ups / stops for coal based power plants. NTDC/NPCC is directed to prepare the necessary protocol within 60 days of this Decision for NEPRA's approval.

ix. Efficiency Degradation over time

137. HUBCO stated that in previous PPAs such as that of Hub, a yearly heat rate degradation curve has been acknowledged. It has been witnessed that plants have a deteriorating efficiency regime over the years due to wear and tear of equipment at the plant.According to HUBCO, with heat rate test (for efficiency-gain sharing mechanism) taking place in Year-1, it is mandatory that such de-rating curve should be put in place. EPC Contractor's recommendations must be taken into account for such de-rating."

138. The Authority has already discussed these issues as part of heat rate testing.

139. The Authority received another letter from NTDC requesting clarification on certain additional items which were somewhat similar to what HUBCO raised and discussed hereinabove. NTDC has commented on the following issues:

   a. **Outage allowance.** The NTDC has proposed that IPP could make savings in the outage allowance of 15% in normal years (by increasing their availability to say, 87%) and use the hours saved in the exceptional years (i.e. the first 2 years and the major maintenance years).

      i. The Authority notes that this proposal of NTDC though seems logical however, it will put a heavy demand on the power producer which may not be helpful especially in the first 2 years for which the commentator has requested additional allowance for outages. The Authority considers that

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the 85% percent availability requirement is reasonable however, in the major maintenance years special provisions may be allowed, to be included in the PPA.

b. **Yearly Heat Rate Degradation.** NTDC has also sought clarification about the yearly heat rate degradation and stated that the efficiency / heat rate numbers specified by NEPRA are all inclusive and the required efficiency level have to be maintained by the IPPs throughout the agreement term.

   i. The Authority considers that all such factors shall be handled as per prudent utility practices and applicable curves and parameters will be included as part of PPA.

x. Definition of European Boiler

140. Some of the commentators pointed out that unlike Thar coal tariff determination, European boiler is not defined in the Decision. Therefore, they requested to also include such definition. The Authority consider it a reasonable suggestion and hereby clarifies that any boiler will be categorized as European boiler regardless of its place of manufacture if it is designed by European boiler manufacturer and installed under its warranty and under the European company's nameplate. It is further clarified that the boiler will be regarded as European if it is manufactured by the European boiler manufacturer through any joint venture partnership with other local companies as along as if it is designed by European boiler manufacturer and installed under its warranty and under the European company's nameplate.

141. The Authority also noted that some of the commentators were concerned that why coal tariff has been calculated on the basis of 85% plant factor when in 2013 determination, the levelized tariff was calculated on the basis of 60% plant factor. The Authority clarifies that in terms of calculating levelized tariff for the entire project, plant factor is a notional number which in fact has no effect on the actual payments. The actual tariff will be two part one variable and another fixed capacity payment. The Authority used plant factor of 85% to indicate that these plant will be base-load plants which will run close to their availability. Therefore a tariff at 60% plant factor will indicatethose numbers which will not be reflective of actual operation of these power plants. However, to avoid confusion and provide ease of tariff comparison for laymen, the Authority therefore, decided to also calculate the tariff on 60% plant factor. The **Annex-I** attached will now show a comparison of coal tariff across different categories both on 60% plant factor and 85% plant factor.

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ANNEX-I

COMPARISON OF LEVELIZED UPFRONT TARIFF ON DIFFERENT PLANT FACTORS

Description	Imported Coal				Local Coal			
	Foreign Financing		Local Financing		Foreign Financing		Local Financing	
	85%	60%	85%	60%	85%	60%	85%	60%
	Cents/kWh	Cents/kWh	Cents/kWh	Cents/kWh	Cents/kWh	Cents/kWh	Cents/kWh	Cents/kWh
220 MW	8.6417	10.1195	9.6774	11.5867	8.2537	9.7121	9.2978	11.1912
350 MW	8.5353	10.0683	9.6240	11.6105	8.1784	9.6976	9.2759	11.2524
660 MW	8.3601	9.8200	9.5422	11.4947	8.0116	9.4613	9.2100	11.1591
1099 MW	8.0189	9.3828	9.1198	10.9424	7.6738	9.0254	8.7897	10.6063

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In view of the foregoing discussion, the review petition filed by the Petitioner is hereby disposed of in the above terms. The findings of the Authority in the instant determination shall form part of the Decision dated June 26, 2014 notified vide SRO No. 942(I)/2014 dated October 15, 2014 and shall be considered as integral part of the said Decision.

21/11/2014.

AUTHORITY

(Khawaja Muhammad Naeem)
Member

(Maj. Rtd. Haroon Rashid)
Member

21.11.14.

(Himayat Ullah Khan)
Member

21/11/2014

(Habibullah Khilji)
Vice Chairman

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21.11.14