

Press Release

(June 11, 2021)

Ameri Relocation Is Unnecessary and Wasteful

We have sighted a memo from the energy ministry signed by the energy minister, Hon. Mathew Opoku Prempeh to GNPC on an agreed plan to relocate the Ameri Thermal Plant from Aboadze to Anwomaso in Kumasi. This will also necessitate the supply of natural gas between 50mmscfd to 75mmscfd at a minimum pressure of 41bar. What this means is that GNPC -Genser Energy Ghana Ltd pipeline would have to be extended from Nyinahin to Kumasi to be able to transmit natural gas to the plant. The ministry by the memo sighted by The Energy & Associates further directs that these pipelines construction must be completed by 30th September 2021.

First of all, we find this relocation very wasteful and unnecessary, at a time government is finding it very difficult to pay debts owed in the energy sector and also that deadlines given are overly ambitious. Let me give you a brief background for the appreciations of our energy and power generation and transmission architecture.

The transformation capacity within the entire country is approximately 8,900MVA with a corresponding installed generating capacity of some 5,000MW. Out of this 5,000MW, the dependable capacity according to the 2021 Electricity Supply Plan is about 4,363MW. With the maximum peak demanded recorded so far in 2021 as being 3,200MW, it implies that the transformation capacity in the country is adequate enough to cater for any demand at the request of consumers.

The load between Kumasi and Kintampo is about 400MW, which is also on a 161kV line. The low level of Bui dam prevents Bui to run on full blast and renders the dam unavailable in many occasions when the reactive power is needed most to augment what is being generated from the south. Voltages recorded in the middle belt of the country hence, measured in the values of 150kV and 155kV which is far below the nominal transmitted voltage of about 161kV for that particular corridor's voltage level.

This has necessitated GRIDCo to upgrade its 161kV line between Kumasi and Kintampo to 330kV line. Upon

completion of the Kumasi - Kintampo 330kV lines among other projects such as 330/34.5kV Substation at Pokuase, 161kV Volta - Achimota - Mallam lines and 161kV Kasoa Substation, the voltage in the middle belt of the country will improve significantly and renders the Ameri relocation somewhat unnecessary. This is because the voltages at Kintampo and its environs will be more than that of the voltages in Kumasi, and eventually compel GRIDCo to invest in condensers to sink the high voltage being registered at the northern part of the country and that is the *effect of ferranti*.

Government therefore, does not need to relocate the Ameri plant to Kumasi at this point as the relocation will require an investment to counter the effect of higher voltage upon completion of Anwomaso - Kintampo 330kV lines. Instead, government should assist Gridco to place priority on strengthening the transmission infrastructure by upgrading most of the critical loads which are on 161kV lines into 330kV lines, and converting all the radial lines into ring circuits (*Load Flow analysis must be done properly*).

Alternatively, Energy Commission and PURC must begin to enforce the self-generation of reactive power (*VARs*) by large consumers or face the penalty of paying for consuming VARs beyond the minimum threshold. The issue of VAR compensation should be taken seriously by all the regulators including all participants on the National Interconnected Transmission System (*NITS*), otherwise, the Volta River Authority would continue to deplete the Akosombo Electro-Hydro dam below its minimum operating level and eventually cook the generator windings. It should be noted however that, the more VAR is generated, the more the generator windings are subjected to excessive heat, hence the disincentive for VRA to continue generating VARs beyond its excitation needs. Other IPPs must also be made to generate VARs to augment the efforts of the VRA and Bui.

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