NTUA Electrical Extension Instructions and Cost Information (September 2002)

INTRODUCTION:

This document is intended to help the IHS Engineer/Project Manager with the NTUA Electrical Extension Process. Guideline 10.3 remains in effect.

INSTRUCTIONS:

1. The IHS Project Engineer/Manager will provide NTUA with a USGS location map showing where electrical power is needed. The map should show the location of any existing power lines in the area.

   In addition to the map, provide information on the planned electrical load. Include number and size of pumps and motors, phase and voltage requirements, whether pumps will operate at the same time, estimated starting amps, full load amps, and any other significant electrical loads such as old style single to three phase converters.

   As part of the package, request a cost estimate to provide electrical power to the site, a cost estimate to complete the initial right of way, archeological surveying and final design, and an estimate of how long it will take to provide the cost estimates and construct the proposed facilities.

2. For all electrical extensions greater than 1 mile, the IHS Project Engineer/Manager will provide the information to the IHS Engineer Consultant who will then request an initial cost estimate and time line from the NTUA Headquarters electrical engineering department.

3. For all electrical extensions less than 1 mile, the IHS Project Engineer/Manager will provide the information to the NTUA district office and a copy to the IHS Engineer Consultant.

4. The IHS Engineer Consultant will provide monthly status reports to the IHS Project Engineer/Manager and to the IHS DSFC Deputy Director for all requests sent to the HQ NTUA electrical engineering department through the IHS Engineer Consultant.

5. The IHS Project Engineer/Manager is encouraged to obtain monthly status updates from the NTUA districts for all requests submitted to them. Any delays and/or unresolved problems should be shared with the Engineer Consultant. In most cases, the Engineer Consultant will attempt to facilitate the process where problems are encountered.

6. After receiving the initial cost estimate (including a budget cost to construct the electrical extension and a cost estimate for the right-of-way and design process) from NTUA, the IHS (i.e.: Project Engineer/Manager with concurrence of the District Engineer) will decide if they wish to proceed with the project. If IHS decides to move forward with the right-of-way and design process, a letter of authorization from the IHS DSFC Deputy Director (according to Guideline 10.3, Method 2) for the initial right of way, archeological surveying and preliminary design work will be submitted to NTUA. The letter of authorization will be submitted to the same person as the original cost estimate request was submitted in Steps 2 & 3, above.

   The letter of authorization will also ask for two time estimates. One will be the time required to complete the final design and detailed "final" cost estimate. The other will be for the time to provide power to the site once the final design is completed and approval to proceed is given by IHS.

7. Monthly status will again be reported as discussed in Steps 4 & 5 above.

8. Once IHS receives the detailed "final" NTUA cost estimate, the IHS (i.e.: Project Engineer/Manager with concurrence of the District Engineer) will decide if they wish to proceed with the project. The IHS DSFC Deputy Director shall submit to NTUA a letter of authorization (according to Guideline 10.3, Method 2) for the total project cost described by the detailed "final" NTUA cost estimate.

9. Monthly status will again be reported as discussed in Steps 4 & 5 above.

10. Any problems that occur throughout the process will be addressed as they occur by IHS, NTUA and the IHS Engineer Consultant.

11. On IHS projects, IHS is not required to provide any funds up front. Funds are required to be provided to NTUA only after a project is cancelled (for right-of-way and design costs) or the power has been provided to the site. This differs from the way NTUA normally does business. Any questions on this topic should be referred to the IHS Engineer Consultant.

<u>COST AND TIMING INFORMATION</u>:

Typical costs to provide power by NTUA:

3 phase - $37,000 per mile for overhead power
1 phase - $18,000 per mile for overhead power
underground power is 2-1/2 to 4 times the overhead power costs
right of way survey, arch, final design - $6,000 per mile

For budget purposes, it is recommended that the above costs be increased by at least 50% to include any realignment due to archeological or any other requirements.

Typical time frames, if all landowners consent and no archeological problems occur are:

1-3 months initial cost estimate
3-9 months for final design
12-24 months for construction.

Total typical time frames for NTUA electrical extensions are 16-36 months. Therefore, it is imperative the IHS Project Engineer/Manager initiate the electrical extension process as soon as a Planning Agreement is established!!!

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