

Proposal Number :
 WO/JO Number :
 Letter Number :

Scope Change Number : 0A

**TENNESSEE VALLEY AUTHORITY
 TASK ASSIGNMENT ORDER (TAO)**

CONTRACT NUMBER : 00021705
 CONTRACTOR : **MACTEC Engineering**
 TASK NUMBER : MAC - 0659 - 7
 REVISION NUMBER : 00

LEAD : Cherie Minghini
 TECHNICAL MGR. : Lynn Petty
 EFFECTIVE BEGIN DATE : 2/14/03
 CURRENT END DATE : 5/14/03
 PHASE :

PLANT : **Kingston Fossil Plant**
 PROJECT : **Scrubber Stack Investigation**
 TASK DESCRIPTION : **Scrubber Stack Investigation**
 DESCRIPTION OF REVISION: **Initial Authorization**

FEE TYPE APPLICABLE TO THIS TAO :

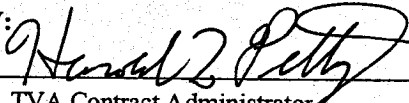
Performance Award Fee
 Fixed Price Fee - Managed Fixed Percentage Type
 Fixed-Percentage Fee \Rightarrow Staff Augmentation Field Support
 No fee applies to this task

TASK SUMMARY

| | Previous Revision | | Net Change | | Total task Authorization |
|------------------------------|-------------------|----------|-----------------|----------|--------------------------|
| Negotiated Estimated Cost | \$0 | + | \$30,267 | = | \$30,267 |
| Fixed Fee | \$0 | + | \$0 | = | \$0 |
| Earned Award Fee To Date | \$0 | + | \$0 | = | \$0 |
| Available Award Fee | \$0 | + | \$0 | = | \$0 |
| Total Estimated Price | \$0 | + | \$30,267 | = | \$30,267 |

TVA SHORT CODE **001BV4V** PCN _____

LOCATION CODE _____ PERFORMING UNIT _____

APPROVED BY: 
 TVA Contract Administrator

2/20/03
 Date

DISTRIBUTION:
 Partner (cc)

Lead Eng.
 2/26/2003

RELEASE # 7

TENNESSEE VALLEY AUTHORITY
MACTEC ENGINEERING — CONTRACT NO. 21705
GEOLOGIC, GEOTCHNICAL AND ENVIRONMENTAL ENGINEERING SERVICES
TAO GENERATION FORM

Date: 2/14/03

~~4659~~ RD
~~4659~~ -7

Project: (Plant Name): KIF - KINGSTON FOSSIL PLANT

Task Subject: Scrubber Stack Investigation

Begin Date: 2/14/03 End Date: 5/14/03 Short Code: 001BV4V

Technical Contact: Cherie Minghini Address: LP2G-C Ext: 6375-C

Project Manager/Engineer: Jan Agee Address: LP2P-C Ext: 3035-C

Technical Contract Manager: Ron Purkey Address: LP 2 G-C Ext: 4820-C

Scope of Work: (Attach LAW's Proposal)

Distribution of Final Copies:

| Name | Address | Number of copies |
|-------------------------------|--------------------------------------------------------------------|------------------|
| Dan Smith, Perkins | 633 Chestnut Street #400 Chattanooga, TN 37450-0400 | 1 |
| Cherie Minghini | 1101 Market Street, LP2G Chattanooga, TN 37402 | 2 |
| Dave Robinson | 1101 Market Street, LP2G MR 2T Chattanooga, TN 37402 | 2 |

DR. Barry Beck, PELA 106 Administration Road, Suite 4
Approval Signatures: Dak Ridge, TN 37830 1

Technical Contact: Cherie Minghini Date: 2-14-03
(signs for Technical Adequacy)

Project Manager/Engineer: Jan Agee Date: 2/14/03
(signs for Budget Authorization)

Technical Contact Manager: David J. Petty Date: 2-14-03



February 10, 2003

Mr. Ron Purkey
Tennessee Valley Authority
1101 Market Street, LP-2G
Chattanooga, TN 37402

Subject: **Task Order Proposal for Geotechnical Exploration
Tennessee Valley Authority
Kingston Fossil Plant
Scrubber Stack Investigation
Kingston, Tennessee
MACTEC Proposal 50399-0-0000/9001, Revision 1**

Dear Mr. Purkey:

MACTEC Engineering and Consulting of Georgia, Inc. f/k/a Law Engineering and Environmental Services, Inc (MACTEC), hereby submits this proposal for performing a geotechnical exploration for a potential scrubber waste disposal area for the Kingston Fossil Plant. Included in this proposal are our understanding of the project requirements, our proposed scope of services, our cost estimate, and our schedule.

Project Information and Scope of Services

We were given preliminary project information by Mr. Dan Smith of Parsons, Inc., in a meeting in late December 2002 and in subsequent e-mails. This information consisted of a draft statement of work and a CAD drawing of the potential disposal area. We also participated in a meeting at the plant and inspected the proposed disposal area on January 15, 2003. Subsequently, we met with Dave Robinson of TVA and Dr. Barry Beck of P.E. LaMoreaux in our office on February 5, 2003.

It is our understanding that TVA is considering the development of a waste disposal area to stack scrubber waste. The potential disposal area associated with this investigation is centered roughly 4,500 feet east-southeast of the power plant. MACTEC will perform the geotechnical investigation in general accordance with the draft statement of work provided by Mr. Smith and the directions given by Mr. Robinson and Dr. Beck.

MACTEC Engineering and Consulting, Inc.
1725 Louisville Drive • Knoxville, TN 37921-5904
865-588-8544 • Fax: 865-588-8026

TVA-00003873

Proposed Scope of Services

Based on our understanding of your needs, we will provide the following services:

- Review of geologic maps for evidence of regional and local faults.
- Mobilize one geoprobe and one all-terrain vehicle (ATV) mounted drill rig.
- Perform geoprobe borings for approximately two full days to determine the depth to top of rock. The geoprobe boring will be at the locations selected by Dr. Beck.
- Perform six soil sampling borings including standard penetration test (SPT) blow counts at the locations selected by Dr. Beck. Thirty feet of NQ size rock coring will be performed at two of the six boring locations as designated by Dr. Beck.
- Explore a potential earth fill borrow area with ~~five~~ ^{4 geoprobes instead} auger borings drilled to a depth of approximately 20 feet.
- Backfill all borings with a cement-bentonite grout.
- Perform laboratory tests on the soil samples consisting of natural moisture content, Atterberg limits, grain size analyses and standard Proctor compaction.
- Prepare a report that contains the results of the field exploration, laboratory tests and our conclusions and recommendations.

Assumptions

MACTEC assumes the following:

- All boring and geoprobe locations will be determined by TVA using land surveying techniques or accurate GPS methods and referenced to a suitable grid system. All boring and geoprobe locations will be staked and marked with suitable identification prior to our mobilization to the site to prevent drill rig standby time and to reduce costs. All boring locations will be provided to MACTEC for use in their final report.
- When required to gain access to the boring and geoprobe locations selected by Dr. Beck, TVA will provide timber clearing, dozer and/or backhoe equipment, and operating personnel. This access preparation will be performed in advance to prevent drill rig standby time and to reduce costs.
- Mitigation of environmental concerns (if any are encountered) is not part of this work.

February 10, 2003

Cost Estimate

We have estimated the cost to perform the geotechnical exploration services to be approximately \$30,267. This projected cost was based on manpower estimates and quantities of work as presented in Table 1 (attached). The actual cost will be based on the units of work performed.

Schedule

Based on our current work load, we can begin the geoprobe investigation within approximately one week of authorization to proceed. We can start the soil and rock sampling borings during the week beginning on February 24, 2003. We expect the final report to be issued in less than five weeks after authorization. If desired, preliminary information can be provided upon completion of the field exploration.

Authorization

We propose to perform the requested services in accordance with the terms and conditions of our current contract. We understand that, if this proposal is acceptable to you, TVA will authorize this work by issuance of a TAO.



Mr. Purkey, we appreciate the opportunity to provide these services to TVA. If you have any questions regarding this proposal, please contact Sam Stone or Carl Tockstein at (865) 588-8544.

Sincerely,

MACTEC ENGINEERING AND CONSULTING OF GEORGIA, INC.
f/k/a LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Samuel D. Stone, P.E.
Corporate Consultant - Geotechnical

Carl D. Tockstein, P.E.
Chief Engineer - Tennessee Operations

SDS/CDT:sjm

Attachment

TABLE 1 - COST ESTIMATE
KINGSTON FOSSIL PLANT - SCRUBBER GYPSUM STACK - PHASE I
MACTEC Proposal 50399-0-0000/9001, Revision 1

| PROFESSIONAL SERVICES | | | | | | |
|--------------------------------------------------------------|-----------------------|-----------------|--------------|---------------|---------------------|--------------------|
| DESCRIPTION | CLASSIFICATION | HOURS | RATE | BURDEN | BILLING RATE | COST |
| Project Administration | Principal | 4 | \$38.33 | \$68.99 | \$107.32 | \$429.30 |
| Site Reconnaissance/ Drilling Coordination | Project Geologist | 50 | \$22.65 | \$40.77 | \$63.42 | \$3,171.00 |
| Data Analysis/ Report Preparation | Project Geologist | 6 | \$22.65 | \$40.77 | \$63.42 | \$380.52 |
| Site Reconnaissance/ Drilling Coordination | Principal | 0 | \$38.33 | \$68.99 | \$107.32 | \$0.00 |
| Geoprobe Borings/Data Analysis/ Report Preparation | Staff Engineer I | 48 | \$22.65 | \$40.77 | \$63.42 | \$3,044.16 |
| Site Recon/Data Analysis/ Report Preparation | Senior Engineer | 36 | \$31.71 | \$57.08 | \$88.79 | \$3,196.37 |
| Data Analysis/ Report Preparation | Principal Engineer | 2 | \$38.33 | \$68.99 | \$107.32 | \$214.65 |
| Data Analysis/ Report Preparation | Corporate Consultant | 4 | \$48.78 | \$87.80 | \$136.58 | \$546.34 |
| Data Analysis/ Report Preparation | Word Processor | 4 | \$10.45 | \$18.81 | \$29.26 | \$117.04 |
| Data Analysis/ Report Preparation | Draftsperson | 6 | \$12.20 | \$21.96 | \$34.16 | \$204.96 |
| SUBTOTAL LABOR | | | | | | \$11,304.33 |
| ADDITIONAL CONSULTATION | | | | | | |
| DESCRIPTION | | | | | | |
| Consultation with the design team | Senior Engineer | 2 | \$31.71 | \$57.08 | \$88.79 | \$177.58 |
| Consultation with the design team | Principal | 2 | \$38.33 | \$68.99 | \$107.32 | \$214.65 |
| SUBTOTAL ADDITIONAL CONSULTATION | | | | | | \$392.22 |
| TRAVEL EXPENSES (PROFESSIONAL) | | | | | | |
| DESCRIPTION | UNIT | QUANTITY | RATES | COST | | |
| Expenses(including transportation to and from site, etc.) | each | 1 | \$150.00 | \$150.00 | | |
| SUBTOTAL TRAVEL EXPENSES | | | | | | \$150.00 |
| DRILLING SERVICES | | | | | | |
| ITEM | UNIT | QUANTITY | RATES | COST | | |
| Mobilization and demobilization of Geoprobe drill rig | each | 1 | \$232.00 | \$232.00 | | |
| Mobilization and demobilization of ATV Mounted drill rig | each | 1 | \$330.00 | \$330.00 | | |
| Mobilization and demobilization of Support Truck | each | 2 | \$66.00 | \$132.00 | | |
| Auger boring in overburden, 4 1/4" id., 0-25 ft | ft | 250 | \$6.25 | \$1,562.50 | | |
| Auger boring in overburden, 4 1/4" id., 25-50 ft | ft | 150 | \$6.75 | \$1,012.50 | | |
| Auger boring in overburden, 4 1/4" id., 50-100 ft | ft | 60 | \$7.50 | \$450.00 | | |
| Standard Penetration test in conjunction with boring | each | 90 | \$20.00 | \$1,800.00 | | |
| Undisturbed sample 3 inch Shelby tube | each | 0 | \$60.00 | \$0.00 | | |
| Rock coring, NQ size, vertical hole - less than 50 feet deep | ft | 0 | \$35.00 | \$0.00 | | |

TABLE 1 - COST ESTIMATE
KINGSTON FOSSIL PLANT - SCRUBBER GYPSUM STACK - PHASE I
MACTEC Proposal 50399-0-0000/9001, Revision 1

| | | | | |
|---------------------------------------------------------------------|-------------|-----------------|--------------|--------------------|
| Rock coring, NQ size, vertical hole - 50 to 100 feet deep | ft | 60 | \$38.00 | \$2,280.00 |
| Coring setup charge | each | 2 | \$100.00 | \$200.00 |
| DRILLING SERVICES | | | | |
| ITEM | UNIT | QUANTITY | RATES | COST |
| Grouting with cement Bentonite grout - 6" dia or less | ft | 520 | \$5.50 | \$2,860.00 |
| Rock core boxes | each | 8 | \$12.00 | \$96.00 |
| Time rate for drill crew for collection and disposal of drill waste | hr | 4 | \$150.00 | \$600.00 |
| Time rate for drill crew for water hauling | hr | 5 | \$150.00 | \$750.00 |
| ATV Drill | da | 7 | \$100.00 | \$700.00 |
| Geoprobe Drill | da | 2 | \$1,000.00 | \$2,000.00 |
| Water pump | da | 4 | \$50.00 | \$200.00 |
| Grout Plant | da | 2 | \$250.00 | \$500.00 |
| Support Truck | da | 14 | \$35.00 | \$490.00 |
| Water Tank | da | 4 | \$100.00 | \$400.00 |
| Cell Phone | da | 7 | \$10.00 | \$70.00 |
| Crew daily trip charge to and from site | da | 9 | \$75.00 | \$675.00 |
| Per diem and lodging in accordance with TVA allowances | da | 0 | \$0.00 | \$0.00 |
| SUBTOTAL DRILLING | | | | \$17,340.00 |
| LABORATORY SERVICES | | | | |
| ITEM | UNIT | QUANTITY | RATES | COST |
| Natural (Jar) Moisture Content | each | 20 | \$8.00 | \$160.00 |
| Atterberg Limits | each | 6 | \$65.00 | \$390.00 |
| Sieve Analysis wash 200 | each | 6 | \$45.00 | \$270.00 |
| Standard Proctor Compaction | each | 2 | \$130.00 | \$260.00 |
| | each | 0 | \$0.00 | \$0.00 |
| | each | 0 | \$0.00 | \$0.00 |
| | each | 0 | \$0.00 | \$0.00 |
| | each | 0 | \$0.00 | \$0.00 |
| | each | 0 | \$0.00 | \$0.00 |
| | each | 0 | \$0.00 | \$0.00 |
| SUBTOTAL LABORATORY | | | | \$1,080.00 |
| | | | | \$0.00 |
| TOTAL PROJECT | | | | \$30,266.55 |

Stammler, Theodor B

From: Deskins, Earl L
Sent: Wednesday, March 26, 2003 10:46 AM
To: Bowers, Larry C; Petty, Harold L.; Smith, Amos L; Stammler, Theodor B; Smith, Daniel R.; Campbell, Linda F.; Hedgecoth, Melissa A.
Cc: Robinson, Dave W
Subject: RE: KIF FGD Disposal Project Meeting

Larry,

This is not a good date for me...I will be at a Plant Manager's meeting on that day. Please check with Theresa (717-2501) to set up a meeting to provide me an update on all activities.

Earl L. Deskins
Plant Manager
Kingston Fossil Plant

-----Original Message-----

From: Bowers, Larry C
Sent: Wednesday, March 26, 2003 10:13 AM
To: Petty, Harold L.; Smith, Amos L; Stammler, Theodor B; Smith, Daniel R.; Campbell, Linda F.; Hedgecoth, Melissa A.
Cc: Robinson, Dave W; Deskins, Earl L
Subject: KIF FGD Disposal Project Meeting

We will have our next project meeting at KIF on April 1, 2003 at 10:00am. We meet in the EPRI conference room at the plant. I will get an agenda out before the meeting, but the focus of the meeting will be on reviewing the results of Mactec work, discussions with PELA, review of Parsons work to date, and a discussion of the work on the ash pond alternative. Ted, would you or Lynn forward this email to Law/Mactec? I anticipate the meeting with our contractors will be completed by 12:00 with the TVA folks plus Dan meeting after lunch on the ash pond alternative.

Larry C. Bowers
Senior Solid Waste Specialist
Environmental Affairs
1101 Market Street, LP 5D
Chattanooga, Tn 37402-2801
423-751-4947 Fax: 423-751-7011
Pager: 1-800-283-0028,2421
lcbowers@tva.gov

From: Sluss, Dallas P.
 Sent: Thursday, March 27, 2003 8:31 AM
 To: Stammler, Theodor B
 Cc: Petty, Harold L.; Minghini, Cherie M.; Hodge, Richard D.; Scoggins, John N.
 Subject: RE: KIF Gypsum Stack - Field survey

Mr. Stammler,

I have been asked to coordinate this work with you. Our estimate to provide a topographic survey of the wooded areas, approximately 30 acres, as attached in the previous email and to locate (horizontally and vertically) the 5 piezometers is \$7500. We expect about a 3 week turn around on this work but may have another job to perform during the May 1 time frame; therefore, we would request at least 1 or 2 weeks notice prior to starting the field work. Any additional lead time would be helpful as well.

If given the go ahead to provide the survey we understand we need to coordinate with James "Harold" Catlett (717-2041) at the plant.

If you have any questions don't hesitate to contact me or Richard Hodge (605-2964).

Dallas Sluss
 Team Leader, Surveying Services
 TPS - Surveying & Project Services
 1101 Market St. MR 4B-C
 Chattanooga, TN 37402-2801
<http://tpsnet.cha.tva.gov/hr/docs/tpsorg.pdf#page=6> = S&PS Organization Chart
 Phone: (423)751-2255 - MR4 Fax (423)751-6083 - e-mail:dpsluss@tva.gov

-----Original Message-----

From: Minghini, Cherie M.
 Sent: Monday, March 17, 2003 3:17 PM
 To: Sluss, Dallas P.
 Cc: Stammler, Theodor B; Petty, Harold L.
 Subject: KIF Gypsum Stack - Field survey

Dallas-

Can we get a surveying estimate for field surveying the tree-covered areas as shown in the attached topo sheet? We have fairly accurate topo which was flown for this area; however, we noticed in the field that the areas with tree cover have some inaccuracies. In addition, we have five piezometers which are currently in-place that need to be located with elevations (we have coordinates). Approximate locations are shown on the attached map.

We would not expect this work to take place until May 1 (at earliest).

If you have any questions or comments, please call me.

Thanks,

Cherie M. Minghini, P.E.
 FPG- Engineering Design Svcs.
 423-751-6375

-----Original Message-----

From: Hranek, Mike G.
 Sent: Monday, March 17, 2003 2:54 PM
 To: Minghini, Cherie M.
 Subject:

Stammler, Theodor B

From: Minghini, Cherie M.
Sent: Monday, March 17, 2003 3:29 PM
To: Stammler, Theodor B
Subject: FW: KIF GYPSUM STACK LAYOUT



GYPSUM
TACK.dwg (1 MB)

Ted-

This is an electronic copy of Dan Smith's current layout of the stack at the ash pond which he showed us today.

Cherie

-----Original Message-----

From: Burt, Bryan [mailto:Bryan.Burt@parsons.com]
Sent: Friday, March 14, 2003 2:34 PM
To: cmminghini@tva.gov
Subject: KIF GYPSUM STACK LAYOUT

Cheri,

As per Dan Smith's request, I am sending you the current layout sketch for the gypsum stack at Kingston. Please let me know if you have any problems receiving or viewing the sketch.

Thanks,

Bryan

Bryan S. Burt
Parsons Energy & Chemicals Group Inc.
633 Chestnut Street, Suite 400
Chattanooga, TN 37450-0400
Phone: (423) 757-8062 Fax: (423) 266-0922
Bryan.Burt@parsons.com

<<GYPSUM STACK.dwg>>

Stammler, Theodor B

From: Minghini, Cherie M.
Sent: Monday, March 17, 2003 3:17 PM
To: Sluss, Dallas P.
Cc: Stammler, Theodor B; Petty, Harold L.
Subject: KIF Gypsum Stack - Field survey



base topo.dwg
(1 MB)

Dallas-

Can we get a surveying estimate for field surveying the tree-covered areas as shown in the attached topo sheet? We have fairly accurate topo which was flown for this area; however, we noticed in the field that the areas with tree cover have some inaccuracies. In addition, we have five piezometers which are currently in-place that need to be located with elevations (we have coordinates). Approximate locations are shown on the attached map.

We would not expect this work to take place until May 1 (at earliest).

If you have any questions or comments, please call me.

Thanks,

Cherie M. Minghini, P.E.
FPG- Engineering Design Svcs.
423-751-6375

-----Original Message-----

From: Hranek, Mike G.
Sent: Monday, March 17, 2003 2:54 PM
To: Minghini, Cherie M.
Subject: