DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, PORTLAND DISTRICT
PO BOX 2946
PORTLAND OR 97208-2946

REPLY TO
ATTENTION OF

Hydroelectric Design Center

AUG 21 2009

Mr. Douglas J. Albright
Actuation Test Equipment Company
3393 Eddie Road
Winnebago, Illinois 61088

Dear Mr. Albright:

In accordance with my letter of June 23, 2009, the technical office responsible for your contract rating has prepared documentation outlining the basis on which the "Marginal" performance rating was assigned to contract number W9127N-04-D-0009, which I have enclosed.

As outlined previously in my letter, EP 715-1-7 grants you 60 calendar days in which to review the provided documentation and request a meeting with the District Commander, U.S. Army Corps of Engineers, Portland District in the pursuit of mediation of the final performance rating assigned this contract. Should the Government receive a formal request from you by October 20, 2009 a meeting will be scheduled on a mutually convenient date within 30 days of receipt of your request.

Sincerely,

Michael P. Roll, P.E.
Deputy Director, Hydroelectric Design Center

Enclosure

Reference #1

SOURCE CODE AND GDACS SECURITY

Prior to Contract Award the Contractor was made fully aware of the Government requirements for source code and security. There was much discussion of these requirements resulting in the Section J special clause regarding the rights and how they would be applied (See Reference #3, paragraph 7 CONTRACTOR RIGHTS). The contractor was to supply pre-developed and copyrighted computer program modules to protect his intellectual property rights at the beginning of the contract period. These modules were to be self contained and identified by form, fit and function, including inputs and outputs. Thus the Contractor's source code would be protected and the Government GDACS software would be protected.

The modules to be copyrighted are (see Reference #23):

"Steady State" procedure,
"Parse and Graph" procedures,
"Autocal procedure, and
"Registration & Security" a utility program.

The Contractor did copyright a computer program (See Reference #4), however, the Government did not receive these copyrighted modules. The Contractor was to demonstrate the items developed prior to award of the contract on the Contractors initial meeting with the Government (See Reference #2, paragraph 3.4.2.1). The Contractor did not provide this demonstration or the modules.

The contractor did provide information (July 27, 2005) in a document identified as "Software milestone documentation" prior to the first field demonstration test (August 2005). The Government reviewed the document and found significant deviations from the contract requirements (Attachment #24). The listing did not agree with Attachment #23 there were different files purported to have been pre existing Copyrighted code.

The contractor (See Reference #5) indicated he was ignoring the Section J bilateral agreement (See Reference #3). During the initial field test (See Reference #7) the modules were not demonstrated because they did not exist. In addition, it was clear that Contractor was intentionally trying to collect data on adjacent Units by accessing the Government GDACS software without cause and not permitted by the Contract. The Contractor was instructed to remove the capability and code from the ITB program. The following is contained in Reference #10.

> COE cmt: "There is extraneous information and tabs such as the Units A, B, C. The extraneous information not required by the contract should be removed from the various screens."

Cntr response: "No. They stay. If you don't understand why they are there, and how useful the knowledge they will impart will be in an analysis of Unit#5, then don't speak; **look & listen**, grasshopper, you might learn something."

"Government Clarification: Doug, we can't accept a response such as this. It is unacceptable. Please don't assume you are always talking to Ed. The rest of us would also like to know the answers to why we saw what we saw. OK? No offense intended."

The Contractor ignored the instructions and continued to co-mingle Contractor pre-developed software with co-developed software and hardware. This created a potentially major security breach for the existing secure Government operational software. The Contactor was reminded of contract requirements by the CO and draft cure letter and current status (Reference #12) prepared. The Contractor submitted a FOIA on August 25, 2005 seeking the Governments source code for FCRPS GDACS control system. This request was rejected.

The final Contractor software delivered to the Government did not meet contract requirements or Government security requirements. The code to allow the ITB to communicate with GDACS for other than the unit being tested still remained and the contractor pre-developed software was co-mingled with co-developed software and hardware (See Reference #25).

Despite all of the above, the end product developed performed base data collection functions largely as intended, based on limited field testing performed. Complete and thorough field testing of product was never performed. Enhancements to simplify installation and improve user interface were never pursued.

REFERENCE DOCUMENTATION:

(#1) Summary Government discussion of Contract Source Code Requirements and GDACS security issues and why the Contractor was non-compliant with Contract requirements.

(#2) Original Contract (Signed May 26, 2004)

(#3) A contract clause negotiated between the Government and Contractor prior to award to protect both the Contractor and Government: "Optimizer Special License Agreement" Original Contract Section J (May 26, 2004).

(#4) Contractor's Computer Program Copyright Certificate of Registration. This document indicates Index Test Software was copyrighted but the four separate modules identified by the Contractor are not separately identified. (July 19, 2004)

(#5) Email from Contractor to Government indicating that the pre-existing code Copyright had been registered and indicates contractor is integrating co-developed code with preexisting code ignoring Section J agreement. Also included in the email are statements by the Contractor indicating the Contractor was ignoring "Stop Work" order emailed from Government on October 14, 2004 which is included with the email. (Oct. 20, 2004)

(#6) Contracting Officer hand written note of conversation with Contractor where Contractor threatens default on contract. (June 14, 2005)

(#7) Government comments (transmitted to Contractor for action) on initial field test demonstration of ITB on McNary Unit 5 and identifying many major and minor deficiencies. (August 12, 2005)

(#8) Email from Contractor to Government titled "Enough Already" asserting that the Government was at fault for schedule delays, quality control problems, willfully misleading the Contractor prior to and during and after the ITB field demonstration test at McNary and the Contractor threatens default. (August 12, 2005)

(#9) Signed Contract Modification #1, This modification increased funding ($20,000) extended the performance period completion date (from May 31, 2005 to September 30, 2005) and specified the delivery date (NLT July 29, 2005) of the interim ITB for field testing (signed by Contractor on August 19, 2005 after the initial field test and after the delivery of all supplies was due).

(#10) Two emails from Contractor to Government with Contractor responses to field test comments, Government clarifications and rebuttal of Contractor responses and Contractor re-rebuttal and refusal to address some comments. (August 17 and August 29, 2005)

(#11) Notes of Government engineers during 2nd Field Test demonstration of the ITB on McNary Unit 5 (Sept 13, 2005) sent to the CO for action. The notes contain many general comments and many specific comments on the deficiencies identified during the testing.

(#12) Draft Government Cure Letter, with Government Plan for "Proof of Concept" demonstration of the ITB. The letter was not sent to Contractor; however it identifies the work remaining. (Sept, 2005) The reference also contains a potential plan of action proposed by the Government to field test a "proof of concept" ITB device. The Governments negotiations with the Contractor resulted in agreement to attempt a "proof of concept" demonstration if the Government would pay for Contractor preparations and Contractor travel expenses. Agreement was reached for the Government to add $16,002 to the Contract amount

(#13) Partial email from Contractor to Government containing Contractors Invoice #9 (May 31 to Sept 12, 2005) with a day by day explanation of Contractor's work and providing the Contractors opinion of cause of schedule delays and documenting Contractor expenditures.

(#14) Signed Contract Modification #3, (NTP Nov 22, 2005, signed Dec 10, 2005 by Contractor). This modification removed some of the deliverables because the Contractor could not meet contract requirements. These are pre-developed source code modules, documentation/manuals, eliminated at least one-half of previously required field testing, a much reduced data analysis tool requirement. The modification identified the specifics of a "proof of concept" demonstration field test. The purpose of the contract modification was to identify if the Contractors ITB could collect and analyze data and communicate with the GDACS control system.

(#15) Memorandum For the Record, Government Trip Report, McNary Unit 9 Index Test Box Proof of Concept Test. (Dec 21, 2005) This report identifies that the ITB did collect data but could not operate independently, could not operate unattended, could not perform an Index test, could not analyze collected data, did not have adequate documentation and did not comply with the source code requirements. The Contractor's non-compliance of the Optimizer Special License Agreement threatened the security of the regional GDACS control system.

(#16) The Government initially sent this document to the Contractor by email and it contains the actual Government comments (black text) on the "Proof of Concept" field test. The Contractor embedded his response (blue text) or rebuttal (blue text) within the original document. The Contractor later embedded additional response (green text) or rebuttal (green text) and indicated he needed additional Government resources to address some Government comments. (Jan 6, 2006)

(#17) Contractor email to Government indicating inexperience in data analysis and lack of supplied documentation. (Jan 14, 2006)

(#18) Email from Contractor to Government with suggestion that ITB was sabotaged by the Government. (Jan 20, 2006)

(#19) Email from Contractor to Government providing option prices, equipment changes and identifying equipment now unnecessary (ATEC 150). (Feb 7, 2006)

(#20) Email from Government field test engineer to CO indicating the status of ITB during a Government Independent field test at Ice Harbor. (Feb 21, 2006) The ITB was checked during operation to determine if the deficiencies previously identified by the Government during the "proof of concept" field test had been addressed. The test engineers felt most had been addressed but some were not or could not be addressed by the Contractor. ITB was able to collect data on one unit but not the other because of unclear ITB documentation and instructions.

(#21) Internal email to CO from Government field test engineer summarizing an independent Government evaluation of the data collection ability of the ITB during a field test at Ice Harbor. (Feb 24, 2006) The field test engineer felt the ITB could collect steady state data but has not been fully tested.

(#22) Copy of Contractor release of claims for line item 0001 (prototype ITB) (March 29, 2006) and the Government released retainage.

(#23) Contractor Original Proposal to Government for the ITB (Oct 2, 2003) which identifies software and hardware proposed. This software was to be in modular form and pre-developed. A comparison with what was actually delivered to the Government (#24) below indicates the original software was not in independent modules as indicated during pre-contract negotiations of the clause (#3) above.

(#24) Email from Contractor to Government identifying Contractors interpretation of final software documentation. (July 27, 2005) This email was internally reviewed by a Government PDT expert. Government comments are on the supplied software and security risks to the GDACS control system. Text black and red is the Contractors explanation. The text identified and separately highlighted by "WORD" is the Government comments. This document with comments was provided to the CO for consideration. It should be noted that the final code listing still contains programming to access GDACS control of up to four turbine units within the powerhouse as well as unnecessary security restrictions that require a separate Contractor supplied password to enable the ITB.

(#25) Email from Contractor to Government discussing program modules. (2006) In this email the Contractor explains his plans for supplying pre-developed code from co-developed code to produce the Contract required program modules. The Contractor states that if the Government wants what it contracted for it will cost more. The Contractor also presents an opinion that the Government is trying to use Contractor intellectual property for Government purposes and that is why pre-existing source code and the co-developed source code have been combined so the

Government would be dependent on the Contractor and would have to pay for each use.

Documentation in Support of DD Form 2631
Performance Evaluation of "Marginal"
For
Contract W912N04D0009
With
ACTUATION TEST EQUIPMENT COMPANY

What the Government Originally Contracted for (Contract Excerpts):

1.1 SUMMARY

Type 1 optimization refers to the software and equipment to conduct automatic, unattended, index tests on Kaplan hydraulic turbines. An index test is a relative efficiency test performed to determine the shape of the optimum efficiency profile and the optimum cam curve to be inputted to the governor or control unit. A cam curve denotes the relation between the angle of the blades on the runner and the opening of the wicket gates, for a given head. (added for clarity: "cam curve" means best operating efficiency) This contract is intended to produce a working, prototype Type 1 Optimizer and validate the operational concept of the unit to conduct automatic, unattended, index tests on Kaplan hydraulic turbines.

a. One prototype, complete, stand alone, demonstration Type 1 Optimizer single, independent system also known as an Index Test Box (ITB), which is removable and portable, that operates a Kaplan unit through the existing control system and collects the necessary data for prototype Kaplan cam analysis and development. Operates unattended and provides data in a standard format for analysis of blade to gate relationships versus as found operational parameters in a format consistent with existing Government equipment, processes and procedures.

b. A complete prototype source code listing for any code developed under this contract. Reference the Optimizer Special License Agreement in Sec. J, FAR 52.227-14, DFAR 252.227-7014, DFAR 252.227-7013, DFAR 252.227-7016, DFAR 252.227-7019. Any pre-developed code shall be as a self-contained module and identified by form, fit and function, including inputs and outputs.

c. An instruction manual, including installation, operation and maintenance of the prototype, Type 1 Optimizer.

d. Any required software and hardware to reduce and analyze the recorded test data and present the results in a standard format, with engineering units as customarily used in the US. Reference FAR 52.227-14, DFAR 252.227-7014, DFAR 252.227-7013, DFAR 252.227-7016, DFAR 252.227-7019, DFAR 252.227-7037

e. The outputs of the prototype Type 1 Optimizer are to be a data field and resulting relative efficiency profile with a corresponding cam curve at two-foot intervals of gross head. The outputs shall be observable on the device and be provided in electronic formats suitable for subsequent analysis on computer.

What the Contractor Supplied

The hardware and software supplied by the Contractor was successful as a "proof of concept" data collection device to automatically record steady state operational

parameters of a Kaplan turbine. The "Best Effort" device supplied for the "proof of concept" demonstration in December 2005 could not operate independently, could not operate unattended, could not perform an Index test, could not analyze collected data, did not have adequate documentation and did not comply with the source code requirements. The Contractor's non-compliance of the Optimizer Special License Agreement threatened the security of the regional GDACS control system. Although not specifically addressed in Form 2631 system security was a significant factor considered in the performance evaluation and is discussed in Reference #1.

DD Form 2631 Evaluation

Guidance is provided by EP 715-1-7 in Paragraph 6.4, f, assignment of overall ratings is discussed. The performance evaluation of Contractors overall rating is **"Marginal"** and is clearly within guidance and supported by contract documentation.

"(4) "Marginal." One or two significant disciplines or attributes are rated "unsatisfactory," or all or almost disciplines or attributes are rated "marginal." An unusual amount of extra effort and follow-up on the part of the Government was required in order to get an acceptable product."

The information below supports the final performance evaluation: **"Item 12. OVERALL RATING"** of **"Marginal"** was assigned for the evaluation of Contractors "Best Effort" to supply the specified product and to explain the **"Item 13. RECOMMENDED FOR FUTURE CONTRACT?"** Evaluation of **"NO".** The evaluation covers the time frame from Contract award May 26, 2004 (Reference #2) to Contractor release of claims March 29, 2006 (Reference #22). Documentation to support this rating is provided below and in References #1 to #25.

DD Form 2631 Item 20 Remarks
Sample Documentation

The information below is arranged to list the disciplines identified in Item 16 and their rating with Item 17 Attributes pertaining to the disciplines listed below (Only attributes rated Marginal or Unsatisfactory are addressed per guidance of EP 715-1-7). The evaluation rating assigned to the attributes is further delineated by example reference information supporting the assigned rating for the attribute and discipline as they apply.

Item 16 a. Disciplines (Technical Services Quality/Ability)

Discipline: **#1 Mechanical**	Rating: **MARGINAL**
Discipline: **#2 Electrical**	Rating: **MARGINAL**
Discipline: **#3 Cost Estimating**	Rating: **MARGINAL**

Item 17, Attributes:

Item 17: Thoroughness of Site Investigation/Field Analysis Rating: Marginal

Rating Rationale:

1. During the 1st field demonstration (August 2005) the ITB program (Version 1.16) did not collect any useful data for evaluation. (See References #7 and #10)
2. During the 2nd field demonstration (September, 2005) the ITB program (Version 1.21) did not perform unattended, did not have documentation, did not have source code, numerous errors and bugs, security issues not addressed, ATEC 150 problems etc., (See Reference #11)
3. During the 3rd field test the "Best Effort" demonstration (December 2005) the ITB program (Version 1.43) collected massive amounts of data that had to be separately evaluated, could not operate independently, could not operate unattended, could not perform an Index test, could not analyze collected data, did not have adequate documentation and did not comply with the source code requirements. (See References #15 and #16)
4. The Contractor did not have clear understanding of work required or the necessary experience in field Index Testing and the necessary experience in data reduction to provide families of Kaplan Cam Curves. (See References #15 and #17)

Item 17: Quality Control Procedures and Execution Rating: Unsatisfactory

Rating Rationale:

1. The Contractor manufactured device ATEC 150 (transducer signal conditioner) did not consistently work, was poorly documented and was an unnecessary device. (See References #7, #10, #11, #19 and #21)
2. There were many "bugs" in computer program operation that caused unpredictable computer malfunctions. (See References #7, #10, #11, #15, #16 and #21)
3. The Contractor made continuous program changes and versions at least 43 times, typically transmitted by email without sufficient explanation or documentation. (See References #7, #10, #11, #15, #16 and #21)
4. Documentation and revisions were piecemeal, typically transmitted by multiple emails. (See References #7, #10, #11, #15, #16 and #21)
5. The Contractors documentation was incomplete or missing completely; the supplied documentation was poor, uncoordinated and in many instances required communication with the Contractor to be understandable by experienced Government personnel. (See References #7, #10, #11, #15, #16 and #21)
6. During the 1st field demonstration (August 2005) the ITB program (Version 1.16) did not collect any useful data for evaluation. (See References #7 and #10)
7. During the 2nd field demonstration (September, 2005) the ITB program (Version 1.21) did not perform unattended, did not have documentation, did not have source code, numerous errors and bugs, security issues not addressed, ATEC 150 problems etc., (See Reference #11)

8. During the 3rd field test the "Best Effort" demonstration (December 2005) the ITB program (Version 1.43) collected massive amounts of data that had to be separately evaluated, could not operate independently, could not operate unattended, could not perform an Index test, could not analyze collected data, did not have adequate documentation and did not comply with the source code requirements. (See References #15 and #16)
9. The Contractor did not supply initial Copyrighted Modules he indicated he had at the on-set of the Contract. (See References #1, #3, #4, #5 #12, #23, #24 and #25)

Item 17: Plans/Specs Accurate and Coordinated Rating: Marginal

Rating Rationale:

1. The Contractor made continuous program changes and versions at least 43 times, typically transmitted by email without sufficient explanation or documentation. (See References #7, #10, #11, #15, #16 and #21)
2. Documentation and revisions were piecemeal, typically transmitted by multiple emails. (See References #7, #10, #11, #15, #16 and #21)
3. The Contractors documentation was incomplete or missing completely; the supplied documentation was poor, uncoordinated and in many instances required communication with the Contractor to be understandable by experienced Government personnel. (See References #7, #10, #11, #15, #16 and #21)
4. The Contractor did not supply initial Copyrighted Modules he indicated he had at the on-set of the Contract. (See References #1, #3, #4, #5 #12, #23, #24 and #25)

Item 17: Management and Adherence to Schedules Rating: Unsatisfactory

Rating Rationale:

1. The Contractor reported that he was working at own expense to update existing Copyrighted modules so he does not have to provide complete co-developed source code. (See References #2, #5 and #14)
2. The Contractor ignored the Optimizer Special License Agreement (See References #3, #4, #5 and #12)
3. The Contractor required an extreme amount of Government participation and resources. (See All References, #12 is example)
4. The Contractor ignored delivery dates or supplied a known defective product. (See References #2, #9 and #14)
5. The Contractor agreed to supply the complete working device in one year. It took over two years for an incomplete "Best Effort" device. (See References #2 and #22)
6. The Government was forced to eliminate field testing both with and without fish screens because funds expended and could not be scheduled. (See Reference #14)
7. ITB cannot perform an Index Test as required. (See References #15, #16 and #21)

Item 17: Meeting Cost Limitations **Rating: Marginal**

Rating Rationale:

1. Contract costs exceeded. (See References #9, #13 and #14)
2. Required substantial Government Resources. (See all References)
3. Analyses of the data from tests was done by COE (See Reference #21)
4. Government had to accept less than was contracted for. (See Reference #14)
5. The Government was forced to eliminate field testing both with and without fish screens because funds expended and could not be scheduled. (See Reference #14)
6. The Contractor manufactured device ATEC 150 (transducer signal conditioner) did not consistently work, was poorly documented and was an unnecessary device. (See References #7, #10, #11, #19 and #21)

Item 17: Suitability of Design or Study Results **Rating: Marginal**

Rating Rationale:

1. The Contractor manufactured device ATEC 150 (transducer signal conditioner) did not consistently work, was poorly documented and was an unnecessary device. (See References #7, #10, #11, #19 and #21)
2. The co-developed source code was not delivered as required. (See References #1, #2, #3, #23, #24 and #25).
3. The "Proof of Concept" ITB Version 1.43 program was marginal during field test demonstration. (See References #15 and #16)
4. The Governments independent prototype test at Ice Harbor of the ITB Version 1.43 was marginal in collecting steady state data during an attempted field Index test. (See References #20 and #21)
5. The Contractor retained unknown source code with unwarranted access to the unit, powerhouse and GDACS control system. This posed an unknown risk to the regional FCRPS control system. (See Reference #1, #23 and #24)
6. No functional data analysis program was supplied as required. (See References #15 and #16)
7. The ITB could not be fully field tested (no perturbation tested) (See References #15, #16 and #21)
8. The ITB could not operate unattended as required (See References #15 and #16)
9. The Contractor supplied ITB cannot perform an Index Test as required. (See References #15, #16 and #21)

Item 17: Cooperativeness and Responsiveness **Rating: Unsatisfactory**

Rating Rationale:

1. The Contractor ignored delivery dates or supplied a known defective product. (See References #1, #2, #9 and #14)

2. The Contractor retained unknown source code with unwarranted access to the unit, powerhouse and GDACS control system. This posed an unknown risk to the regional FCRPS control system. (See Reference #1, #23 and #24)
3. The Contractor Ignored Co-developed Source Code requirements (See References #2, #3, #4, #5, #12, #23, #24 and #25).
4. The Contractor accused Government of being unfair and blames Government for Contractor Quality Control problems. (See References #8 and #18)