Memo To:
Dave Ebner USACE Contract Specialist
From Doug Albright of Actuation test Equipment
Date: 6-20-05

Subject: Status report and invoice for the period of April 6 to May 31.

Dave,
I'd like to submit an invoice for work leading up the delivery of the ITB to HDC, software mods as requested and preparation of the perturbation interface software. The time interval of the contract has run out on us, but we're still cranking along on the ITB development because it's needed now; and more time spent working on it will result in a better product soonest. I'm working on it on my own time, just because getting it done is good for me too.

You directed a work stoppage to control intellectual property rights, but I cannot comply. About that intellectual property right stuff – I will provide the specified number of units at the negotiated price to HDC. All information necessary to install, setup and operate the ITB will be provided. What other need do they have for intellectual property than to have it available for their use in the 320 units we agreed upon? Without the statistical sampling routine kept behind the Copyright this stuff won't be of much use.

Correcting a Misunderstanding
There has been some talk that the ITB technology I am preparing is incompatible with GDACS; this is incorrect. The ITB program does not need to be rewritten into any other language (by someone else) to be useable in the GDACS.

If/when it is decided that this works, I agree that it should be merged into GDACS, so I've taken steps to make sure this will be a simple and cost efficient merge.

To this end I spoke with Lee Parmeter, technical contact at SoftPLC about this early on in the project. He said yes, my program could be compiled to a linkable DLL and loaded with the GDACS program in the SoftPLC, but he didn't recommend this method. He said a better method would be to add a Single Board Computer to the SoftPLC enclosure with my program running on it, and then link these two computers together inside the SoftPLC box using standard computer communication methods. This would not only avoid the expense of rewriting this code, but also provide an autonomous operating environment for my program. From looking at how busy the screen is when it runs, you can see that it's sort-of processor intensive.

In any event, if such a rewriting of my program into another language is necessary, I will do it, if you please…

On the other hand, The GDACS software written by ACSI is USACE property, and HDC should have source code of it available to provide to me for this rewriting exercise.

I am not a C programmer, but I can hire some if I need them. I suspect some of the talent that prepared the GDACS for you might be available to me.

There is another misunderstanding of what I was asking of ACSI. I do not want their software in my possession here. I have no use for it; there's no SoftPLC here to run it on. I want it provided to GMT for the above-mentioned testing of my stuff there on the GDACS simulator in GMT, not to be sent to me here.

Status:
The ITB computer is at HDC for testing at GMT. The software has the perturbation routine in it, but to my knowledge this new part of the program is still untested. We need the ACSI generated part of the program to be completed and installed into the GDACS computer at GMT to facilitate ITB testing. To learn the up-to-the-minute of this, you might ask Ms. Shown Fu, the de-facto custodian of this equipment. (Or ask Lee to do it.)

The need for this testing is because there are still some questions as to how the Visual Basic ActiveX OPC Data Control module from Software Toolbox will work in this scenario. I've spoken with Software Toolbox about it, and they think it will work the way we want it to, but there is still some uncertainty that a few tests at GMT will lay to rest. It would be imprudent for ATECo to send a representative to Portland before this inexpensive testing step is completed.

Problem with contract
Here is the original text,

3.4.2.9 Delivery of the prototype Type 1 Optimizer source code listing developed under this contract, and a final report specifying objectives achieved, knowledge developed during the project and recommendations.

and the offending first change;

Note this part was not bolded.

3.4.2.9 Delivery of the prototype Type 1 Optimizer source code listing developed under this contract, and a final report specifying objectives achieved, knowledge developed during the project and recommendations. Current versions of the source code shall be delivered with any revisions to be implemented at McNary and as requested for test versions sent HDC, to be run on the HDC test bed or other PC's. Final delivery of a complete package shall be complete by August 20, 2005.

3.4.2.9a With every delivery or software modification, the Contractor shall deliver software source code.

First try at fixing it:

And not fixed on Second pass.

3.4.2.9 Delivery of the prototype Type 1 Optimizer source code listing developed under this contract, and a final report specifying objectives achieved, knowledge developed during the project and recommendations. Current versions of the source code shall be delivered with any revisions to be implemented at McNary and as requested for test versions sent HDC, to be run on the HDC test bed or other PC's. Final delivery of a complete package shall be complete by **August 20, 05**.

3.4.2.9a With every delivery or software modification, the Contractor shall deliver that part of the software source code written or modified at government expense.

In my mind, the insertion of the phrase "or other PC's" would cost me $2,300 each for these copies. I never said Ed couldn't have them; he just can't have them for free.

In 3.4.2.9 there is a second reference to the source code, specifying delivery with any revisions for McNary and as requested, or whenever he wants one. The answer is NO! Note some bolding in this paragraph to identify the date, but still trying to slip the other changes by me.

I believe if Ms. Fu is satisfied with what the ITB does on her control system mockup at GMT at HDC, it will work the same way at McNary.

Ask her if she got updated software with perturbation added from ACSI to put in Unit#5 in her setup. This is the product from ACSI that I have been asking for, and this is where I want it to be delivered. I'd like to have your folks look at the data collection part and give me some guidelines of what they want. This feedback will help me tweak the data output stream to everyone's satisfaction.

Leroy Richardson can install the Winter Kennedy transducer, manifold and signal conditioner box on the unit. The meter on the front provides instant feedback on how fast to shut off the crossover W-K flushing valve so it doesn't get shut too fast and over-range the transducer.

With my laptop to refer to, I can walk Lee through the sampling algorithm and limits theory at his convenience, whenever and wherever he's the most comfortable. After fiddling with the program for a while, he will be better qualified than me to observe the ITB in operation and determine the best limits to use.

If you're in a big hurry to test this, you won't have to wait for my new signal conditioner box to get a flow measurement signal. We can use off the shelf stuff if you like, but mine works better.

The I/O board in the ITB is a National Instruments 12-bit Lab Pc-1200, a simple low-cost ($800) 12-Bit board.

Any signal conditioner that will provide 0 to 10 Volts at the input of this A/D converter board can be the flow input. I've roughed it in for 0 to 200" W.C. = 0 to 10V output. Call me for instructions; I'll walk anyone through it.

My software has been in Ed's hands since Monday the 13th. Lee Sheldon received the key to enable it at the same time so no delay resulted from this heightened security measure.

What is the current status of the ITB computer at HDC?

Over all, I'd say project status is that we're on the **cusp of greatness**.

Money spent $141,132.36 out of $160.000.00 = 88%

Work accomplished – let me get back to you on that.

Doug

PAYMENT ESTIMATE – CONTRACT PERFORMANCE
For use of this form, see ER 37-2-10 and ER 37-345-10.

1. DATE: 17 June, 2005 | SHEET 1 of 1

2. CONTRACTOR AND ADDRESS: Actuation Test Equipment Corporation, 3393 Eddie Road, Winnebago, IL 61088

3. CONTRACT NO: W912?N-04-D-0009

4. DISTRICT: Portland

5. DESCRIPTION OF WORK: Prototype Type I Optimizer

6. APPROPRIATION AND PROJECT

7. REQUIRED COMPLETION DATE

8. LOCATION: McNary Dam

9. PERIOD COVERED BY THIS ESTIMATE: FROM 6 April '05 THRU 31-May-05

10. JOB ORDER NO.: N/A

11. ESTIMATE NO.

ITEM NO. a	DESCRIPTION b	CONTRACT: QUANTITY AND UNIT c	UNIT PRICE d	AMOUNT e	TOTAL TO DATE: QUANTITY AND UNIT f	AMOUNT g
1	Index Test Box	1	LS	NTE $160,000.00	88%	$141,132.36

INCLUDES MODIFICATION THRU: TOTAL CONTRACT → $160,000.00 | TOTAL EARNINGS TO DATE → $141,132.36

12. PRESENTED FOR PAYMENT

PAYEE: Douglas J. Albright
Actuation Test Equipment Company
3393 Eddie Road, Winnebago IL 61088

PER: Douglas J. Albright

DATE: 17 June, 2005

TITLE: President

13. APPROVED FOR PAYMENT

I CERTIFY that I have checked the quantities covered by this bill or estimate; that the work was actually performed; that the quantities are correct and consistent with all previous computations as actually checked; that the quantities and amounts are wholly consistent with the requirements of the contract or other instrument involved.

SIGNATURE	TITLE	DATE

CONTRACTING OFFICER APPROVAL (Signature) | DATE

14.A. PREVIOUS DEDUCTIONS OTHER THAN RETAINED PERCENTAGE**		$0.00
B. PREVIOUS RETAINED PERCENTAGE		$5,537.46
C. PREVIOUS PAYMENTS		$105,204.57
D. PREVIOUS EARNINGS (A+B+C)		$110,741.63
E. EARNINGS THIS PERIOD (TOTAL EARNINGS TO DATE MINUS D)		$30,390.71
F. LESS RETAINED PERCENTAGE	5%	$1,519.54
G. LESS DEDUCTION OTHER THAN RETAINED PERCENTAGE FOR		$0.00
H. TOTAL DEDJCTIONS THIS PERIOD (F+G)		$1,519.54
I. RETAINAGE REFUNDED		$0.00
J. OTHER REFUNDS		$0.00
K. TOTAL REFUNDS THIS PERIOD		$0.00
L. AMOUNT DLE CONTRACTOR (E-H+K)		$28,871.17

15. RECAPITULATION:

TOTAL RETAINED PCTG. (B+F-I) $ $7,056.60 TOTAL PAID (C+L) $ $134,075.74

ENG FORM 93 PREVIOUS EDITION OF THIS FORM IS OBSOLETE **(USE REVERSE SIDE FOR DETAILED EXPLANATION AND-OR REMARKS)

Dave, when you give me the OK, I'll send this to Eleanor Collins. Get back to me on this, please.

Actuation Test Equipment
3393 Eddie Road
Winnebago, IL 61088

Invoice 042 Listing for Billable Items on Friday, June 17, 2004

Start of invoice time interval: **6-Apr-05**
End of invoice time interval: **31-May-05**

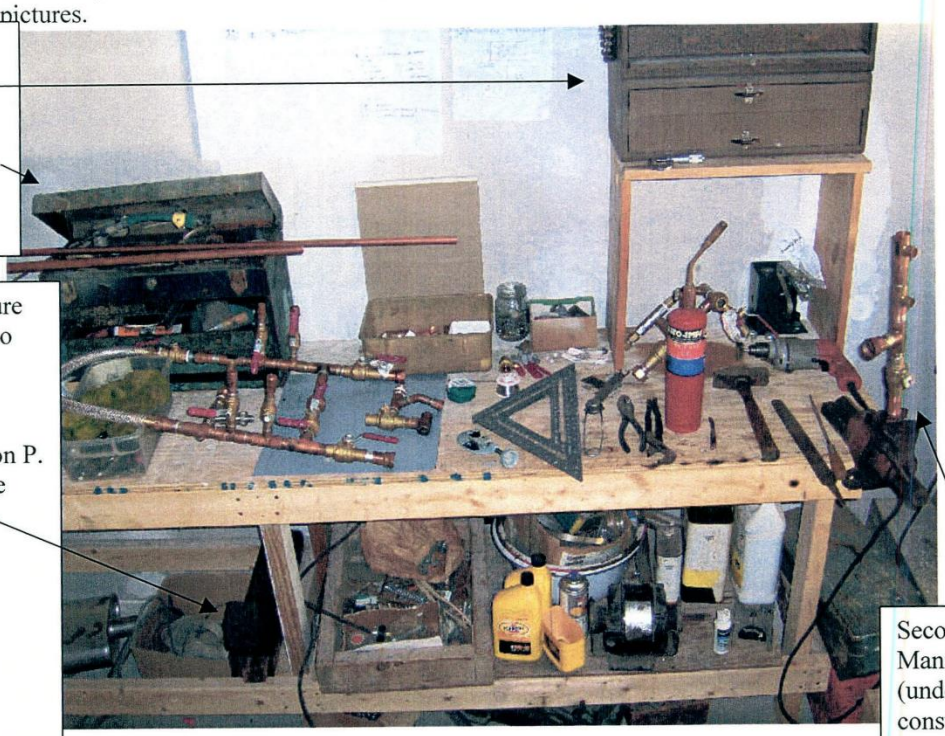
Contract# W9127N-04-D-0009

	Description	Hours	cost	Extended	handling
	Doug Labor	216.50	117.66	25,473.39	
	Greg Labor	122.25	82.14	10,041.62	
2	TopServers from Software Toolbox		895.00	1,790.00	143.20
2	Druck diff xducers		815.00	1,630.00	130.40
1	piping, valves, fittings		100.00	100.00	8.00
1	Roll-around cart		230.00	230.00	18.40
1	Greg's trip expenses		740.91	740.91	59.27
1	car Insurance		42.69	42.69	3.42
1	business insurance		500.00	500.00	40.00
1	Administrative and Workspace		260.38	260.38	20.83
	Subtotals			**40,808.99**	**423.52**
	Total of extended + handling			**$41,232.51**	

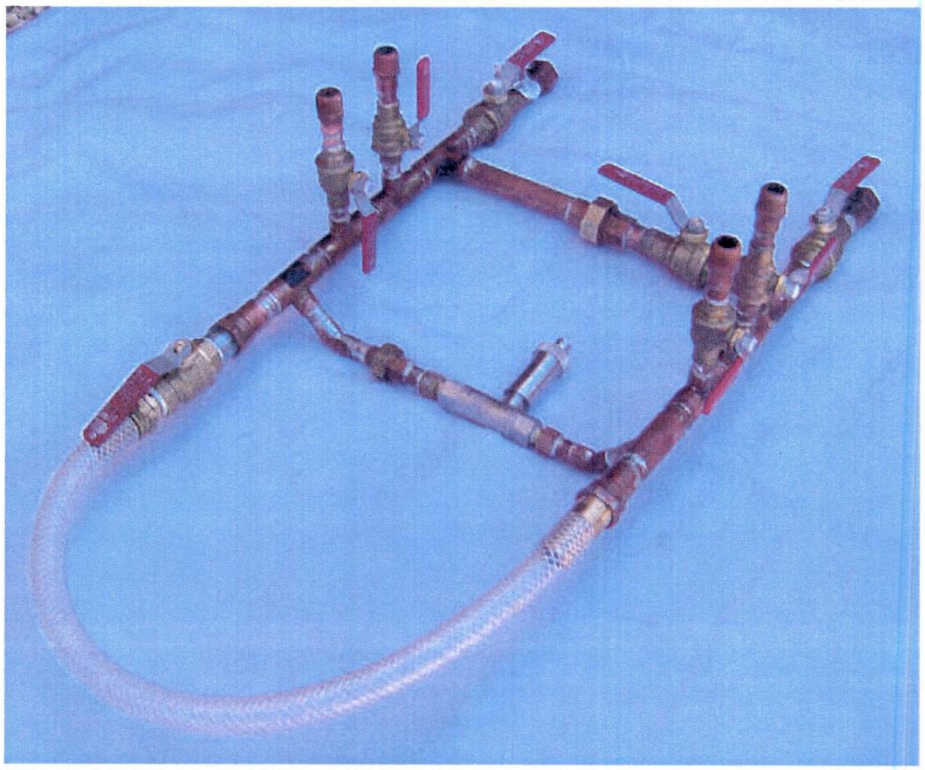
	date	Doug hours	Greg hours
Wed	6-Apr	5.5	2
Thu	7-Apr	0	
Fri	8-Apr	3.75	2.5
Sat	9-Apr	4.5	
Sun	10-Apr	0	
Mon	11-Apr	4.5	1.75
Tues	12-Apr	8	
Wed	13-Apr	8.25	
Thu	14-Apr	3.5	
Fri	15-Apr	0	
Sat	16-Apr	0	
Sun	17-Apr	0	
Mon	18-Apr	7.5	
Tues	19-Apr	6	
Wed	20-Apr	5.5	
Thu	21-Apr	8	
Fri	22-Apr	7.5	
Sat	23-Apr	0	
Sun	24-Apr	0	
Mon	25-Apr	7	
Tues	26-Apr	4	
Wed	27-Apr	4.5	
Thu	28-Apr	6.5	
Fri	29-Apr	0	
Sat	30-Apr	2	
Sun	1-May	0	
Mon	2-May	6	6
Tues	3-May	6	6
Wed	4-May	7	6
Thu	5-May	6	6
Fri	6-May	5	5
Sat	7-May	0	0
Sun	8-May	0	0
Mon	9-May	4	2
Tues	10-May	5.5	5
Wed	11-May	6	6
Thu	12-May	6	6
Fri	13-May	6	6
Sat	14-May	0	0
Sun	15-May	0	5
Mon	16-May	6	8
Tues	17-May	6	8
Wed	18-May	6	8
Thu	19-May	5	0
Fri	20-May	5	5
Sat	21-May	0	0
Sun	22-May	0	0
Mon	23-May	6	6

	date	Doug hours	Greg hours
Tues	24-May	6	6
Wed	25-May	5.5	0
Thu	26-May	5	4
Fri	27-May	6	6
Sat	28-May	0	0
Sun	29-May	0	0
Mon	30-May	0	0
Tues	31-May	6	6
		216.5	122.25
		117.66	82.14
		25473.39	10041.62

To show you where we are in development of Winter Kennedy manifolds, here are a few pictures.



Here's Greg's workbench. I gave him 5 minutes to get ready for the photo shoot.
The manifold components are sweat-soldered together.
By soldering them while oriented vertically, the solder has less chance to drool out of the joint and leave thin spots and air gaps.



This is the first manifold. The tubing around in the bottom of the picture is for the pressure test.

When the second manifold is done, we will pressure test these for a week or so, full of water with shop air (110 PSI) on them to look for leaks.

There is another misunderstanding of what I was asking of ACSI. I do not want their software in my possession here. I have no use for it; there's no SoftPLC here to run it on. I want it provided to GMT for the above-mentioned testing of my stuff there on the GDACS simulator in GMT, not to be sent to me here.

Status:
The ITB computer is at HDC for testing at GMT. The software has the perturbation routine in it, but to my knowledge this new part of the program is still untested. We need the ACSI generated part of the program to be completed and installed into the GDACS computer at GMT to facilitate ITB testing. To learn the up-to-the-minute of this, you might ask Ms. Shown Fu, the de-facto custodian of this equipment. (Or ask Lee to do it.)

The need for this testing is because there are still some questions as to how the Visual Basic ActiveX OPC Data Control module from Software Toolbox will work in this scenario. I've spoken with Software Toolbox about it, and they think it will work the way we want it to, but there is still some uncertainty that a few tests at GMT will lay to rest. It would be imprudent for ATECo to send a representative to Portland before this inexpensive testing step is completed.

Problem with contract
Here is the original text,

3.4.2.9 Delivery of the prototype Type 1 Optimizer source code listing developed under this contract, and a final report specifying objectives achieved, knowledge developed during the project and recommendations.

and the offending first change;

Note this part was not bolded. →

3.4.2.9 Delivery of the prototype Type 1 Optimizer source code listing developed under this contract, and a final report specifying objectives achieved, knowledge developed during the project and recommendations. Current versions of the source code shall be delivered with any revisions to be implemented at McNary and as requested for test versions sent HDC, to be run on the HDC test bed or other PC's. Final delivery of a complete package shall be complete by August 20, 2005.

3.4.2.9a With every delivery or software modification, the Contractor shall deliver software source code.

First try at fixing it:

And not fixed on Second pass. →

3.4.2.9 Delivery of the prototype Type 1 Optimizer source code listing developed under this contract, and a final report specifying objectives achieved, knowledge developed during the project and recommendations. Current versions of the source code shall be delivered with any revisions to be implemented at McNary and as requested for test versions sent HDC, to be run on the HDC test bed or other PC's. Final delivery of a complete package shall be complete by **August 20, 05**.

3.4.2.9a With every delivery or software modification, the Contractor shall deliver that part of the software source code written or modified at government expense.

In my mind, the insertion of the phrase "or other PC's" would cost me $2,300 each for these copies. I never said Ed couldn't have them; he just can't have them for free.

In 3.4.2.9 there is a second reference to the source code, specifying delivery with any revisions for McNary and as requested, or whenever he wants one. The answer is NO! Note some bolding in this paragraph to identify the date, but still trying to slip the other changes by me.