

# NATIONAL SPHERICAL TORUS EXPERIMENT UPGRADE PROJECT

## Engineering Change Proposal (ECP)

Part I To be Completed by Originator

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ECP-078

### COVER PAGE

Originator (CAM) Chrzanowski

Date Submitted 3/21/2013

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ECP No. 078

**ECP Title** Updated resources added for Control Account 1305 to cover the VPI's through the full TF. Added resources for Commissioning of the OH Winding Station. Additional resources added to the LOE job 1300 to cover Engineering Support and Drafting/Title III support.

**Required Reviewers**  
(Change Control Board)

<input type="checkbox"/> Williams	<input checked="" type="checkbox"/> Langish
<input checked="" type="checkbox"/> Strykowski	<input checked="" type="checkbox"/> Other...
<input checked="" type="checkbox"/> Dudek	
<input type="checkbox"/> Stevenson	

**Change Level** 2 Federal Project Director

## Approvals

Change Level	Approving Official	Approval	Signature
3	NSTXU Project Manager	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3a Expedited ECP	NSTXU Engineering Lead	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	NSTXU Federal Project Dir.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
1	Associated Director OFES	<input type="checkbox"/> Yes <input type="checkbox"/> No	
0	Deputy Secretary of Energy	<input type="checkbox"/> Yes <input type="checkbox"/> No	

**Approval Date** 3/22/2013

Primavera Updated ☐  
Cobra Updated ☐  
WAD Updated ☐  
RAM Updated ☐

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### PART I

Originator (CAM) Chrzanowski

Date Submitted 3/21/2013

Type of ECP ☒ Standard ☐ Expedited

Type of Change (Check all that apply) ☐ Technical ☒ Cost ☒ Schedule ☐ Editorial ☐ Other

Reason for Change A bottom-up estimate of the CS Control Accounts was performed. The short-term changes (through the full TF) are being addressed in this ECP which adds additional resources for tasks as determined from the first VPI. Resources to cover the commissioning of the OH Winding Station have also been added. Additionally, The 1300 CS LOE job is being adjusted to add resources for Engineering Support and Drawing/Title III support.

Impacted WBS Elements ☒ 1.1 ☐ Milestone  
☐ 1.2 ☐ Other...  
☐ 1.3  
☐ 1.4  
☐ 1.5  
☐ 1.6  
☐ 1.7  
☐ 1.8  
☐ PEP

Control Accounts ☐ 1000 ☐ 1306 ☐ 2470 ☐ 5000 ☐ 8200  
☐ 1001 ☐ 1307 ☐ 2475 ☐ 5200 ☐ 8210  
☐ 1002 ☐ 1310 ☐ 2480 ☐ 5501 ☐ 8250  
☐ 1200 ☐ 2300 ☐ 2485 ☐ 6100 ☐ Other...  
☒ 1300 ☐ 2420 ☐ 2490 ☐ 7200  
☐ 1301 ☐ 2425 ☐ 3200 ☐ 7300  
☐ 1302 ☐ 2430 ☐ 3300 ☐ 7400  
☐ 1303 ☐ 2440 ☐ 3400 ☐ 7100  
☐ 1304 ☐ 2450 ☐ 4100 ☐ 7710  
☒ 1305 ☐ 2460 ☐ 4500 ☐ 7900

Impacts of Change (Briefly Describe) Increased budget for CAs 1300 and 1305

Impact on Materials Parts Already Manuf. ☐ Yes ☒ No

If yes, what is recommended disposition

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### Detailed Description of Change

#### Description of Change

A bottom-up estimate of the CS Control Accounts was performed. The short-term changes (through the full TF) are being addressed in this ECP which adds additional resources for tasks as determined from the first VPI. Resources to cover the commissioning of the OH Winding Station have also been added. Additionally, The 1300 CS LOE job is being adjusted to add resources for Engineering Support and Drawing/Title III support.

See the attached spreadsheet on last page of this .pdf.

**Contingency draw = \$477,580.12** (this will price lower in Cobra as the BCWS has occurred in FY12)

Submitted by:

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Jim Chrzanowski

Reviewed by:

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Larry Dudek

**SUBMIT ECP**

Do not fill in information below this point

List of  
Attachments

☐ Primavera Schedule (Before/After) ☐ Cobra (Before/After) ☐ Other...

Activity ID	Current Budget	New Budget	Delta Budget	Control Account 1305 ECP	EM//TB	
					Original Hours	Delta
Quadrant #2						
1304-1630	\$ 24,499.20	\$ 41,692.00	\$ 17,192.80	Assemble Quadrant #2	240	160
1304-1640	\$ 9,799.68	\$ 12,507.60	\$ 2,707.92	Prepare VPI operation	96	24
1304-1650	\$ 8,166.40	\$ 22,513.68	\$ 14,347.28	VPI- Quadrant #2	80	216
1304-1660	\$ 14,699.52	\$ 22,513.68	\$ 7,814.16	Cure VPI'd coil	144	216
1304-1670	\$ 6,533.12	\$ 12,507.60	\$ 5,974.48	Remove Quadrant #2 from mold	64	120
1304-1680	\$ 3,266.56	\$ 20,846.00	\$ 17,579.44	Cleanup quadrant and mold	32	200
1304-1690	\$ 1,633.28	\$ 1,667.68	\$ 34.40	Perform T/T electrical tests	16	16
1304-1691A	\$ -	\$ 1,667.68	\$ 1,667.68	Perform metrology measurements	0	16
1304-1692A	\$ -	\$ 1,667.68	\$ 1,667.68	Hydro tests	0	16
Quadrant #3						
1304-1730	\$ 24,671.20	\$ 31,269.00	\$ 6,597.80	Assemble Quadrant #3	240	60
1304-1740	\$ 10,006.08	\$ 12,507.60	\$ 2,501.52	Prepare VPI operation	96	24
1304-1750	\$ 8,338.40	\$ 22,513.68	\$ 14,175.28	VPI- Quadrant #3	80	136
1304-1760	\$ 13,341.44	\$ 22,513.68	\$ 9,172.24	Cure VPI'd coil	128	88
1304-1770	\$ 6,670.72	\$ 12,507.60	\$ 5,836.88	Remove Quadrant #3 from mold	64	56
1304-1780	\$ 3,335.36	\$ 20,846.00	\$ 17,510.64	Cleanup quadrant and mold	32	168
1304-1790	\$ 1,667.68	\$ 1,667.68	\$ -	Perform T/T electrical tests	16	0
1304-1791A	\$ -	\$ 1,667.68	\$ 1,667.68	Perform metrology measurements	0	16
1304-1792A	\$ -	\$ 1,667.68	\$ 1,667.68	Hydro tests	0	16
Quadrant #4						
1304-1830	\$ 25,015.20	\$ 31,269.00	\$ 6,253.80	Assemble Quadrant #4	240	60
1304-1840	\$ 10,006.08	\$ 12,507.60	\$ 2,501.52	Prepare VPI operation	96	24
1304-1850	\$ 8,338.40	\$ 22,513.68	\$ 14,175.28	VPI- Quadrant #4	80	136
1304-1860	\$ 13,341.44	\$ 22,513.68	\$ 9,172.24	Cure VPI'd coil	128	88
1304-1870	\$ 3,335.36	\$ 6,253.80	\$ 2,918.44	Remove Quadrant #4 from mold	32	28
1304-1880	\$ 3,335.36	\$ 20,846.00	\$ 17,510.64	Cleanup quadrant and mold	32	168
1304-1890	\$ 1,667.68	\$ 1,667.68	\$ -	Perform T/T electrical tests	16	0
1304-1891A	\$ -	\$ 1,667.68	\$ 1,667.68	Perform metrology measurements		16
1304-1892A	\$ -	\$ 1,667.68	\$ 1,667.68	Hydro tests		16
Full mold						
1304-4800	\$ 16,678.80	\$ 62,538.00	\$ 45,859.20	Assemble quadrants together	160	440
1304-4900	\$ 6,670.72	\$ 20,846.00	\$ 14,175.28	Apply groundwrap insulation	64	136
1304-4902	\$ 10,006.08	\$ 29,184.40	\$ 19,178.32	Assemble mold	96	184
1304-5000	\$ 13,341.44	\$ 12,507.60	\$ (833.84)	Prepare VPI operation	128	-8
1304-5100	\$ 12,507.60	\$ 22,513.68	\$ 10,006.08	VPI full TF coil	120	96
1304-5200	\$ 13,341.44	\$ 22,513.68	\$ 9,172.24	Cure VPI'd coil	128	88
1304-5300	\$ 10,006.08	\$ 4,169.20	\$ (5,836.88)	Remove full TF from mold and cleanup	96	-56
1304-5400	\$ 3,335.36	\$ 1,667.68	\$ (1,667.68)	Perform Final electrical tests	32	-16
1304-5401A	\$ -	\$ 3,335.36	\$ 3,335.36	Perform metrology measurements	0	32
1304-2004A \$ - \$ 95,049.60 \$ 95,049.60 Commissioning of OH Winding Station Note: EM//EM= 160 hrs, EM//TB= 640 hrs, St: 15Mar F: 15 Jul						
1300-0012			\$ 60,404.40	Eng Support (Raft/Mard/Zatz)		
				Note: Add'l 40 hrs/mo through 9/30/13		
1300-2020A			\$ 44,755.20	Assembly drawings/design support Title III		
				Add'l LOE support (March - June)		
	New task	Cont Draw:	\$ 477,580.12	*		

\* Will price lower in Cobra due to some tasks originally scheduled in FY12