NATIONAL SPHERICAL TORUS EXPERIMENT UPGRADE PROJECT
Engineering Change Proposal (ECP)
Part I To be Completed by Originator

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ECP-037

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Originator (CAM) Tresemer **Date Submitted** 06/15/2012

ECP No. 037 **ECP Title** Protective measures for the PF-1C coil canister.

Required Reviewers (Change Control Board)
- ☒ Williams
- ☒ Strykowsky
- ☒ Dudek
- ☒ Stevenson
- ☒ Langish
- ☐ Other...

Change Level 2 Federal Project Director

Approvals

Change Level	Approving Official	Approval	Signature
3	NSTXU Project Manager	■ Yes ☐ No	Ron Strykowsky — Digitally signed by Ron Strykowsky DN: cn=Ron Strykowsky, o, ou=PPPL, email=rstrykow@pppl.gov, c=US Date: 2012.07.20 11:48:13 -04'00'
3a Expedited ECP	NSTXU Engineering Lead	☐ Yes ☐ No	
2	NSTXU Federal Project Dir.	■ Yes ☐ No	Anthony Indelicato — Digitally signed by Anthony Indelicato DN: cn=Anthony Indelicato, o=Princeton Site Office, ou=DOE-PSO, email=aindelicato@pppl.gov, c=US Date: 2012.07.20 15:28:02 -04'00'
1	Associated Director OFES	☐ Yes ☐ No	
0	Deputy Secretary of Energy	☐ Yes ☐ No	

Approval Date

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

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PART I

Originator (CAM) Tresemer

Date Submitted 06/15/2012

Type of ECP ☒ Standard ☐ Expedited

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

Reason for Change Scope was added to job 1001 to include protective measures for the PF-1C coil canister. This requires the alteration of both the row 1 IBDHS tiles as well as the row 1 OBD bullnose tiles.

Impacted WBS Elements

- ☒ 1.1
- ☐ 1.2
- ☐ 1.3
- ☐ 1.4
- ☐ 1.5
- ☐ 1.6
- ☐ 1.7
- ☐ 1.8
- ☐ PEP
- ☐ Milestone
- ☐ Other...

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) **Increases cost by $471k as well as complicated the purchase and manufacturing of the PFC tiles involved in the change. Pushes out the completion date for job 1001 to September of FY13.**

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

The Row 1 IBD and OBD tiles will be thickened and their CHI gap radii increased to mirror the distance between the PF1C canister and the outboard flange. This will narrow the gap, offering more protection to the PF1C can. Thermocouples will also be installed to monitor this area for excess heat deposition. Since the IBD tiles are increasing in overall thickness and the OBD tiles must now be re-machined, more raw material will be needed and higher machining costs will be encurred. There is also disposition for the increase in designer time and the inevitable field fitting of the tiles, as the geometry in that area is not consistent. There will also be an impact to Diagnostics, as the OBD tiles do have a few sensors that will need to be replaced. Those sensors are already in house, so impact will be nominal other than installation time.

See attached Work Approval Form for details on added activities/budget.

Total contingency draw = $470,583.57

Submitted by:

Kelsey Tresemer

Digitally signed by Kelsey Tresemer
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Kelsey Tresemer

Reviewed by:

Lawrence E. Dudek

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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...**