

# NATIONAL SPHERICAL TORUS EXPERIMENT UPGRADE PROJECT

## Engineering Change Proposal (ECP)

Part I To be Completed by Originator

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ECP-117

### COVER PAGE

Originator (CAM) Chrzanowski Perry

Date Submitted 6/9/2014

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ECP No. 117

**ECP Title** In control Account 1304 Purchase Order  
PE013500 has been issued for another set of outer  
TF connectors (lead extensions). In Control  
Account 8250 tasks 8250-157, 8250-161, 8250  
-165, and 8250-169 have been replaced by the  
shorter bakeout activity 8250-165A.

**Required Reviewers**  
(Change Control Board)

|  |   |
|--|---|
| <input type="checkbox"/> Williams              | <input checked="" type="checkbox"/> Langish |
| <input checked="" type="checkbox"/> Strykowski | <input 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<br>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 6/11/2014

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

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## Engineering Change Proposal (ECP)

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### PART I

Originator (CAM) Chrzanowski Perry

Date Submitted 6/9/2014

Type of ECP ☒ Standard ☐ Expedited

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

Reason for Change In control Account 1304 Purchase Order PE013500 has been issued for another set of outer TF connectors (lead extensions). In Control Account 8250 tasks 8250-157, 8250-161, 8250-165, and 8250-169 have been replaced by the shorter bakeout activity 8250-165A.

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 ☐ 4501 ☐ 7900  
☐ 1001 ☐ 1307 ☐ 2475 ☐ 5000 ☐ 8200  
☐ 1002 ☐ 1310 ☐ 2480 ☐ 5200 ☐ 8210  
☐ 1200 ☐ 2300 ☐ 2485 ☐ 5501 ☒ 8250  
☐ 1300 ☐ 2420 ☐ 2490 ☐ 6100 ☐ Other...  
☐ 1301 ☐ 2425 ☐ 3200 ☐ 7200  
☐ 1302 ☐ 2430 ☐ 3300 ☐ 7300  
☐ 1303 ☐ 2440 ☐ 3400 ☐ 7400  
☒ 1304 ☐ 2450 ☐ 4100 ☐ 7100  
☐ 1305 ☐ 2460 ☐ 4500 ☐ 7710

Impacts of Change (Briefly Describe) Increased costs for TF lead extensions

Impact - BL Sched Dur Change

0

Impact on Materials Parts Already Manuf. ☒ Yes ☐ No

If yes, what is recommended disposition Original set of extensions are not usable due to material issues. This PO will replace these units.

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UPGRADE PROJECT**

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[Detailed Description of Change](#)

**Description of Change** In Control Account 1304. Purchase Order PE013500 has been issued for another set of outer TF connectors (lead extensions).

Cost: \$197,910.00 \* \$1.35= \$267,178.50

Delete activities:

8250-157 Setup for bakeout

8250-161 Rayleigh/Raman Scattering

8250-165 Bakeout

8250-169 Recover from bakeout & scrub

Budget: \$241,026.72

Add new bakeout activity:

8250-165A Bakeout/scrub

Resources: EM//TB=1152 \*\$107.76 = \$124,139.52

**Contingency draw: \$150,291.30**

Submitted by:

\_\_\_\_\_  
Jim Chrzanowski

\_\_\_\_\_  
Erik Perry

Reviewed by:

\_\_\_\_\_  
Larry Dudek

**SUBMIT ECP**

Do not fill in information below this point



Princeton University  
Plasma Physics Laboratory  
Procurement Division  
P.O. Box 451  
Princeton NJ 08543-0451

**Number** PE013500-W  
**Date** 6/4/2014  
**Freight Terms** FRT PPD & BILLED  
**Shipping Via** BEST WAY  
**FOB** FOB Destination  
**Buyer:** Arlene White (609) 243-2080

**Vendor:**  
MARTINEZ & TUREK  
300 SOUTH CEDAR AVENUE

**Ship to:** Princeton Plasma Physics Laboratory  
Receiving No. 3  
US Rte 1 North at Sayre Drive  
Princeton NJ 08543

RIALTO CA 92376

**Bill To:** Princeton Plasma Physics Laboratory  
Attn: General Accounting  
P.O. Box 451  
Princeton NJ 08543-0451

**Confirmed With** TOM MARTINEZ  
**Delivery** 8/15/2014  
**Payment Terms** NET15

PPPL is Tax Exempt.

NJ State Tax Exemption No. E-210-634-501/000

| L/N | Description  | Delivery Date | Deliver To   | Qty   | U/M  | Unit Price   | Ext Price   |
|-----|--|---------------|--------------|-------|------|--------------|-------------|
| 1   |  | 8/15/2014     | Zatz, Irving | 26.00 | Each | \$1,915.0000 | \$49,790.00 |
|     | Outer TF Connector, Type A per Drawing #E-DC1456, Rev. 2 dated 10/16/13 and released for fabrication10/16/13.    |               |              |       |      |              |             |
| 2   |  | 8/15/2014     | Zatz, Irving | 14.00 | Each | \$2,420.0000 | \$33,880.00 |
|     | Outer TF Connectors, Type B per Drawing E-DC1457, Rev. 3 dated 5/14/2014 and released for fabrication 5/14/2014. |               |              |       |      |              |             |
| 3   |  | 8/15/2014     | Zatz, Irving | 14.00 | Each | \$2,750.0000 | \$38,500.00 |
|     | Outer T Connectors Type C per Drawing E-DC1458, rev. 3 dated 5/14/2014 and released for fabrication 5/14/2014.   |               |              |       |      |              |             |
| 4   |  | 8/15/2014     | Zatz, Irving | 14.00 | Each | \$3,030.0000 | \$42,420.00 |
|     | Outer TF Connectors Type D per Drawing E-DC1459, Rev. 3 dated 5/14/2014 and released for fabrication5/14/2014    |               |              |       |      |              |             |
| 5   |  | 8/15/2014     | Zatz, Irving | 14.00 | Each | \$2,380.0000 | \$33,320.00 |
|     | Outer TF Connectors Type E per Drawing E-DC1460, Rev. 3 dated 5/14/2014 and released for fabrication5/14/2014.   |               |              |       |      |              |             |
| 6   |  | 8/15/2014     | Zatz, Irving | 1.00  | Each | \$0.0000     | \$0.00      |
|     | Material Certification for RWMA Class 2, C18150 Copper Chromium Zirconium (Cu-Cr-Zr) with minimum HRB 70         |               |              |       |      |              |             |
| 7   |  | 8/15/2014     | Zatz, Irving | 1.00  | Each | \$0.0000     | \$0.00      |
|     | After Final Machining: All parts to be subjected to "Dye Penetrant and Ultrasonic Testing"                       |               |              |       |      |              |             |



Princeton University  
Plasma Physics Laboratory  
Procurement Division  
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Princeton NJ 08543-0451

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RIALTO CA 92376

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**Confirmed With** TOM MARTINEZ  
**Delivery** 8/15/2014  
**Payment Terms** NET15

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|-----|-------------|---------------|------------|-----|-------|------------|--------------|
|     |             |               |            |     | Total |            | \$197,910.00 |

Unless otherwise stated, the current version of the PPPL Terms and Conditions for Commercial Items or Services, as attached to this order, are hereby incorporated and apply to this order. Should you supply the goods and services called for by this order, the order and its terms and conditions will be deemed to have been accepted by you, and supersede any terms you may state on your invoice or acknowledgments. PPPL will not be liable for late payment charges. Discount period, if applicable, to begin when both invoice and goods have been received by PPPL, unless otherwise agreed.

Send all correspondence, acknowledgments, etc. relating to this order to Princeton Plasma Physics Laboratory, Procurement Division, P.O. Box 451, Princeton, NJ 08543-0451. All shipments, shipping papers, invoices and correspondence must reference our P.O. Number. Overshipments will not be accepted unless authorized by the Buyer prior to shipment.

**Princeton University**

Stanford Schoen



Princeton University  
Plasma Physics Laboratory  
Procurement Division  
P.O. Box 451  
Princeton NJ 08543-0451

Number  
PE013500-W

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6/4/2014

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**P.O. Box 451**  
**Princeton NJ 08543-0451**

RIALTO CA 92376

Notes:

WORKSCOPE:

1. Fabrications shall be performed in accordance with Drawing E-DC1456, E-DC1457, E-DC1458, E-DC1459 and E-DC1460, Rev. 3 for all dated 5/14/2014 and released for fabrication 5/14/2014.

2. Parts to be EB welded as required.

3. Quality Assurance Requirements for Items and Services is incorporated into this award.

Attachments:

PPPL Comm. Terms & Conditions (Rev. 20)  
Drawing E-DC1457, Rev. 3  
Drawing E-DC1458, Rev. 3  
Drawing E-DC1459, Rev. 3  
Drawing E-DC1460, Rev. 3

Quality Assurance Requirements  
Drawing E-DC1456, Rev. 2