CPS Engineering status report

4/21/2023

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CPS Procurements

Coil PO# 22-D1644 Cost: \$95.000 Vendor: TTI Inc. (Parent company of KEMET, was TOKIN) Status: "We discussed your order internally on Monday prior to receiving your message. I am waiting on feedback from the manufacturer. As soon as they respond, I will provide an update." Iron/pole PO# 22-D1585 Cost: \$180,000 Vendor: Buckley Systems Inc. Status: "I can confirm the Permendur 2V material (Long lead item) has been ordered and is due to be shipped to us in a few weeks time. The job details has been released to our planning system with demands created on specific machines to facilitate the manufacturing. We trust this information is as per your requirements. Polv-Boron 5% PO# 23-P0825 Cost: \$30,342 reduced to \$28,862 as shipping was removed from PO. Paid by manufacture if one delivery is used. Vendor: Government Scientific Source Quantity: 30 Plasti-Shield 5% Borated Polyethylene Sheet 1" Thick (+/-0.005") 48" x 96" (+5%, -0) Split shipment: 8 in stock, Back ordered of 22 sheets due in mid-May. Copper Absorber Material C10100 Cu Qty=3 (1 spare) PR# 420437 PR signed off - waiting on buyer to award. Cost: Quotes vary from \$13,100 6"x8"x28" 23 weeks delivery \$22,500 (machined surfaces) 27.88" x 8.13" x 6" 7 weeks to ship estimate

W80-Cu20 Blocks PO# 23-P0914 Cost: \$151,890 Vendor: Midwest Tungsten Services Quantity: 21 pieces of various shapes Status: Due by July 14, 2023

Cu Absorber Prototype testing

- Components are in house.
- Assembly is under way inexperienced pipe fitters resulted in leaky connections.
- Electrical power connections to be done
- Test setup being prepped.





CPS Thermal Model FLUENT

- Fluent modeling of multiple heat sources has been difficult. May require iterative solutions using ANYSIS thermal solver and then FLUENT.
- User board discussions have been trying to solve this type of input data problem going back to 2014.
- Eduard D. in Engineering is also working on a similar problem for the SRF cavity heating, with no success yet from FLUENT support engineering or software developers.
- Haven't given up on it yet.

Mechanical support and layout

- Design change to allow for independent positioning of the magnet/front shielding and the downstream shielding assembly.
- 3mm x 3mm tapers to 6mm x 6mm tunnel
- FEA on supports and loading on Poly-Boron sheets to be started soon.
- Dean to show 3D CAD mode updates.