

## **Invessel Component Checklist Version 4.1 March 2011**

NAME:  
PHONE:

DATE:

The following form must be completed before a new invessel component is installed in the machine. The people listed on the form should review the item and initial it when complete. Where there is more than one person listed, only one initial is required.

Steps:

- 1) Get approval for conceptual design
- 2) After design is complete and any prototype work is done, schedule a design review
- 3) Get all drawings checked before manufacturing (total of 2 engineer or physicist signatures)
- 4) Complete check list
- 5) Manufacture and assemble, install

**COMPONENT/SYSTEM NAME:** \_\_\_\_\_

**Instrument Conceptual Approval (Marmar)**\_\_\_\_\_

Is instrument within budget and address goals?

**Vacuum (Rice)** \_\_\_\_\_

Are proposed materials acceptable for C-Mod vacuum?

Are proposed vacuum interfaces acceptable?

Are there any trapped volumes that should be addressed?

List any cleaning procedures required:

Is baking needed? What temperature?

If the component holds vacuum (window, periscope, fiber bundles, etc), are there adequate backup systems in place in the event of failure (secondary seals or valves, pumps, blank off capability)

**Mechanical and Thermal Integrity (Vieira)** \_\_\_\_\_

Is general mechanical construction acceptable?

Are disruptions an issue (Halo currents)?

Are eddy current forces an issue?

Are the components compatible with 600 C divertor operation?

If there are plasma-wetted surfaces are acceptable materials used?

**Magnetic Compatibility (Wolfe)** \_\_\_\_\_

Are any of the proposed materials a concern?

Are current loops a concern?

**Invessel Layout (Granetz, LaBombard)** \_\_\_\_\_

Are proposed cable, fiber, or gas line runs okay?

What is the minimum bending radius?

Is proposed shielding from main discharge, ECDC, or glow plasma acceptable?

List immediate neighbors (including views):

Is there any interference with existing or planned invessel equipment?

Does it block any view?

Should it be passivated?

Are all sharp corners removed?

Does it remove significant working space? Affect access?

Is it compatible with RF antennas?

**Installation Procedure (Vieira) \_\_\_\_\_**

Can the components actually be installed?

Does it require studs? Template? Clearance for gun?

Are there any improvements to the design that would aid installation?

List any in vessel components that must be removed before installation:

Does any part require to be done just before closing up?

**Documentation ( Vieira) \_\_\_\_\_**

Have engineering drawings been updated?  
(bring a paper copy for archiving)

Is a mockup or prototype required?

List any mechanical tests required:

Drawing Numbers:

**Instrument manufacturing and installation approved (Irby) \_\_\_\_\_**