Quality Assurance Instruction

TECHNICAL SPECIFICATION QUESTIONNAIRE HELP AND GUIDELINES

Abstract
This document provides instructions for the preparation of Technical Specification Questionnaire

Note
The original of this instruction is written in HTML as an interactive document and can be found on the WWW in the Quality Assurance pages of the LHC Project. A copy is presented here for reference only and will not be maintained up to date. Always refer to the WWW copy for working purposes.

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Checked by:
This is an example **Questionnaire** for an **Invitation to Tender**. It is based on the official LHC Invitation to Tender Questionnaire template. It includes hints and guidelines on how to prepare the Questionnaire for a Tender.

The example is meant as a guide to the contents, and as a reminder of the points to consider, when preparing a tender. The chapters proposed in the template should be amended to suit individual cases.

The following conventions are used in this example:

- All the text in **black** is the text found in the Word template. This may need editing to obtain a complete Questionnaire.
- The text in **red** is an example of what has to be added to complete the document. In the Word template these additions are indicated by **XXXX**
- The **HELP** are links to hints and guidelines to help the editor preparing the document.

More information on Invitation to Tender can be found in:
- **Help and Guidelines for Invitations to Tender**.
- **GO TO the commented Questionnaire**

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**GROUP CODE:** LHC-MMS/98-198/G09/fs

The Large Hadron Collider Project

**IT-2540/LHC/LHC**

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**Invitation to Tender**

**Technical Questionnaire for the Sextupole Spool Corrector Magnets MCS for the LHC Superconducting Dipole Magnets**

(To be returned in duplicate by the Bidder.)

**Firm:** (leading firm in case of a consortium)

**Name:**

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**Address:**

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The answers to this questionnaire must be mailed to CERN together with the Tender Form concerning the Invitation to Tender IT-2540/LHC/LHC.

Tenders sent without a completed questionnaire will be rejected.

March 1999

1. GENERAL INFORMATION ABOUT THE FIRM OR CONSORTIUM

1.1 Contact Persons

Persons to be contacted for technical matters:

<table>
<thead>
<tr>
<th>Name</th>
<th>Tel-Fax</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>………………….</td>
<td>………………….</td>
<td>………………….</td>
</tr>
<tr>
<td>In case of absence:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>………………….</td>
<td>………………….</td>
<td>………………….</td>
</tr>
</tbody>
</table>

Persons to be contacted for commercial matters:

<table>
<thead>
<tr>
<th>Name</th>
<th>Tel-Fax</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>………………….</td>
<td>………………….</td>
<td>………………….</td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>………………….</td>
<td>………………….</td>
<td>………………….</td>
</tr>
</tbody>
</table>

In addition to the technical details proposed by the Bidder, the Tender shall contain the answers to the following questions.

If the space provided is insufficient, please reply on separate sheets.
2. INFORMATION AND DOCUMENTATION MANAGEMENT

2.1 Which CAD system will you use for the technical drawings?

2.2 Are you equipped for file transfer by electronic mail? Will you be able to do the data exchange via the World Wide Web (WWW)?

2.4 What is your quality control system (ISO 9000 or other)?

3. COMPONENTS AND MATERIALS

3.1 Which technique do you propose for the fabrication of the central post?

3.2 Which material do you prefer for the laminations?

3.3 How will you make the nipples?

3.4 Which corrosion protection treatment do you foresee for the laminations?
3.5 Which aluminium alloy do you propose for the shrinking cylinder?
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……………………………………………………………………………………………………
……………………………………………………………………………………………………

3.6 Which iron quality do you propose for the iron shielding cylinder?
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……………………………………………………………………………………………………
……………………………………………………………………………………………………

4. MAGNET FABRICATION

4.1 What kind of a machine do you intend to use for the coil winding?
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……………………………………………………………………………………………………
……………………………………………………………………………………………………

4.2 What kind of tooling will you use for the moulding?
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……………………………………………………………………………………………………
……………………………………………………………………………………………………

4.3 Please describe how you will heat the coil for curing?
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……………………………………………………………………………………………………
……………………………………………………………………………………………………

5. MAGNET ASSEMBLY

5.1 Would you prefer to apply the glass fibre layer by bandage or alternatively by gluing a thin walled tube?
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……………………………………………………………………………………………………
……………………………………………………………………………………………………

5.2 How do you intend to do the ultra-sonic welding of the contacts?
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
5.3 How do you intend to heat the shrink ring before the shrink fit?

6. TESTS

6.1 Which instruments will you use for the mechanical measurements?

6.2 Which instruments will you use for the electrical measurements?

6.3 Where will you do the training tests?

6.4 How many magnets will you train in one test?

6.5 Which power supply will you use and which other instrumentation (for instance for protection of the current leads into the bath)?
Help and Instructions to Use the Template

**IT Number**

The IT number is identical for the technical specification and the questionnaire. The IT number has the following structure:

```
IT - 0000/LHC/LHC
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Document Number Division Project type

It is given by the SPL Division when the Invitation to Tender is registered with them.

If the technical specification is used for a price inquiry, IT is replaced by DO in the number (DO-0000/LHC/LHC).

Use **Update Doc No** on the toolbar to update this number throughout all the document (cover page and headers)

**Date**

Replace the month and year on the template by the current month and year

Use **Update Doc No** on the toolbar to update this date throughout all the document (cover page and packing list)

**Contact Persons**

Leave these tables blank. There are to be filled in by the firm.

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*E. Bryant & M. Mottier*  
2001-04-19