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# **1 Scope**

This NCA Standard applies to the design and construction of industrial and chemical plants. It contains statements for layout and submission for fabrication schedule.

# **2 Abbreviated terms**

FAP = Fabrication Schedule (Fertigungsablaufplan)

MTL = Material Status Report (Materialterminliste)

NCA = thyssenkrupp nucera

TON = Technical Order Number

# **3 General**

The supplier of vessels, machinery and other equipment shall inform NCA regularly (see paragraph 4.5) by furnishing

* 1. FAPs detailing the fabrication cycles and the current state of work progress, e.g. in the form of bar graphs.

Preferably special computer programs (e.g. MS Project) shall be used for preparations (example see Annex A and Annex B). Other types of representations may be used by suppliers if the information content provided meets the requirements specified below.

* 1. MTLs informing nucera regularly about the delivery status of starting materials.

For critical equipment the MTL is part of the "Supplier Web Application" and has to be filled in in addition to the monthly status data and submitted to NCA's Inspection Department.

For other equipment the MTL is not part of the "Supplier Web Application" but shall be prepared by means of a form sheet. Own forms may be used by suppliers if the information content provided is in accordance with the attached sample sheets (see Annex A and Annex B) and meets the requirements specified below.

The observance of all following points shall form part of each purchase order (in accordance with "Additional conditions of purchase").

# **4 Layout and Scope of fabrication schedules**

A FAP is required for each main item of the purchase order. Activities affecting the time schedule shall be condensed to permit representation on an A4 sheet. The NCA purchase order number, designation, TON, equipment number, the inspection date as well as the date of delivery as per purchase order shall be stated.

The FAP shall be structured in 3 sections and reflect the periods required for the following project execution phases (if applicable).

# **4.1 Design / Engineering**

• Foundation data / civil design data

• Verification of drawings by NCA

• Deadlines for technical data furnished by NCA prior to start of fabrication and for pending details (e.g. nozzle orientation)

• Workshop and detail drawings.

• Ratings / PID / welding and testing schedules / Notified Body or other approvals.

• Technical documentation, documentation for plant erection.

# **4.2 Material Procurement**

• Inquiries, purchase orders, fabrication and supplies for main equipment affecting the time schedule

• Other supplies

• Supplies by NCA with deadline

• Test/Inspections scheduled to be witnessed by NCA

# **4.3 Fabrication**

• Welding procedure qualifications, preparatory work

• Main work steps

• Hold points / interim inspections scheduled to be witnessed by NCA

• Test runs, final inspections and final documentation.

• Surface treatment and residual work

• Preparation for shipment, packing

Large or sophisticated equipment items and package units shall be shown on several A4 sheets or in other formats.

If delays are to be expected or already exist, the critical path must be specified in the FAP.

# **4.4 Status**

The current state of work progress shall be shown by shading the deadline bars in accordance with the progress reached so far (in percent).

The progress shall be shown by means of an actual status line with the respective advances and/or delays.

# **4.5 Intervals**

The supplier shall furnish the first FAP to NCA's Inspection Department 6 weeks after order placement at the latest. If the details of production cannot be finalised within this period, this FAP shall be deemed to be a provisional version.

Updates of the FAP’s have to be prepared by the suppliers regularly and submitted to NCA's Inspection Department on a monthly basis as a part of the monthly status report.

Updated FAP’s also have to be submitted during NCA's expediting visits.

# **5 Processing of material procurement**

The starting materials shall be ordered as early as possible and the main materials and accessories to be procured shall be listed in the MTL with all necessary details (in particular: "object", "shop number" and "delivery dates"). Detailed statements of stock on hand and bulk material are not required if these materials have been reserved/marked for the NCA order in question.

A first MTL shall be submitted to NCA 6 weeks after order placement at the latest. The MTL shall be drawn up even if the starting materials have not been ordered (or ordered partially only) at that time.

Updated MTL's shall be submitted without special request to NCA on a monthly basis until such time as all the material has been received by the supplier.

Updated MTL's also have to be presented to the NCA Inspector during expediting visits for review either as a print out of the "Supplier Web Application" or by means of the form sheet (as mentioned above).

The NCA Inspector will also check whether the information provided in the MTL is corresponding with the delivery dates mentioned in the order-acknowledgements of the sub-suppliers.

Any delays in the procurement of the starting materials shall be reported to NCA as soon as they become apparent. The supplier must make every effort to avoid delays or to compensate them during manufacture. NCA shall be informed about the results.

NCA also reserves the right to contact sub-suppliers directly with respect to the punctual delivery. This does not however release the supplier from his obligation to ensure that delivery dates are met.

**Annex A**

**Sample for Vessels and equipment**

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**Annex B**

**Sample for Machinery**