

DIN EN 16590-4:2014-11 (E)

Tractors and machinery for agriculture and forestry - Safety-related parts of control systems - Part 4: Production, operation, modification and supporting processes (ISO 25119-4:2010 modified)

Contents		Page
Foreword		4
Introduction		5
1	Scope	7
2	Normative references	7
3	Terms and definitions	7
4	Abbreviated terms	7
5	Configuration management	8
5.1	Objectives	8
5.2	General	8
5.3	Prerequisites	8
5.4	Requirements	8
5.5	Work products	9
6	Verification and validation	9
6.1	Objectives	9
6.2	General	9
6.3	Prerequisites	9
6.4	Requirements	9
6.4.1	SRP design validation/verification	9
6.4.2	Scope of safety validation/verification	9
6.4.3	Activities	10
6.4.4	Validation/verification plan	10
6.4.5	Validation/verification, test specification of hardware and software	10
6.4.6	Validation/verification test specification of the complete system	10
6.4.7	Validation/verification test specification	10
6.5	Work products	11
7	Product release	11
7.1	Objectives	11
7.2	General	11
7.3	Prerequisites	12
7.4	Requirements	12
7.4.1	Conditions for product release	12
7.4.2	Documentation of product release	13
7.5	Work products	13
8	Production, production testing	13
8.1	Objectives	13
8.2	General	13
8.3	Prerequisites	13
8.4	Requirements	14
8.4.1	Production plan	14
8.4.2	Production test plan	14

8.4.3	Personnel	14
8.4.4	Process capability	14
8.4.5	Documentation	14
8.4.6	Non-compliance	14
8.4.7	Storage and transport conditions	14
8.5	Work products	14
9	Operation planning and maintenance (instructions for operating, servicing, repair, and decommissioning)	15
9.1	Objectives	15
9.2	General	15
9.3	Prerequisites	15
9.4	Requirements	15
9.4.1	General	15
9.4.2	Servicing schedule	15
9.4.3	Repair instructions	15
9.4.4	Service technician instructions	16
9.4.5	User information	16
9.4.6	Field observation	16
9.4.7	Storage and transport information	16
9.4.8	Decommissioning and disassembling	16
9.5	Work products	16
10	Modifications (change management)	17
10.1	General	17
10.2	Objectives	17
10.3	General	17
10.4	Prerequisites	17
10.5	Requirements	17
10.5.1	Product modification and improvement procedures	17
10.5.2	Change request	19
10.5.3	Assessing impact of modification	20
10.5.4	Modification authorisation	20
10.6	Work products	20
11	Procedure for suppliers of SRS, subsystems and components	21
11.1	Objectives	21
11.2	General	21
11.3	Prerequisites	21
11.4	Requirements	21
11.4.1	General	21
11.4.2	Scope of requirements	21
11.4.3	Supplier selection	22
11.4.4	Project initiation	22
11.4.5	Project planning	22
11.4.6	Project execution	22
11.4.7	Confirmation measures for the development partners' functional safety	23
11.4.8	System validation	23
11.5	Work products	23
12	Technical documentation	23
12.1	Objectives	23
12.2	Requirements	23
12.2.1	Document retention	23
12.2.2	Document structure	23
	Annex A (informative) Technical documentation checklist	25
	Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Machinery Directive 2006/42/EC	28
	Bibliography	29