Protection and Control Relay

615 GRID AUTOMATION SERIES

TISSUES Implementation Conformance Statement for the IEC61850 interface in 615 GA series

ABB

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1 Introduction

This document provides the 615 GA series Technical Issues Conformance Statement (TICS). According to the UCA IUG QAP the tissue conformance statement is required to perform a conformance test and is referenced on the certificate. For more details to technical issues check following official web page:
http://www.tissues.iec61850.com.

During the October 2006 meeting IEC TC57 working group 10 decided that:
·   green Tissues with the category "IntOp" are mandatory for IEC 61850 edition 1
·   Tissues with the category "Ed.2" Tissues should not be implemented.
Tables in this document give an overview of the IntOp Tissues and testing status.

1.1 Document information

Revision History

Revision	Date	Note
A	01 July 2013	615 GA series v1.0
B	06 March 2015	615 GA series v1.1
C	16 July 2018	615 GA series v2.0

Applicability

This manual is applicable to all 615 GA series Protection and Control Relay versions mentioned in document Revision History above.

2 IEC 61850 part 6 Tissues

Part 6 No	Clause/ Subclause	Paragraph Figure/ Table	Final change	M/O/-	Sup
#1	Annex A		SCL Syntax	M	Y
#3	Annex B		Check the ENUMs and complete the appendix: AutoRecSt, FltLoop, PmpCtl; The ICD/SCD files should include these ENUMS when used	O	Y
#5	Annex A		tExtensionAttributeNameEnum is restricted	M	Y
#6			the "segmentation" attribute in the *ReportControl/OptFields* section of SCL should be deleted.	O	Y
#8	Annex B		Use name **Watts** for code 62 instead of W	M	Y
#10	Annex A		Add the bType *Check* to the schema, to be used for the Check attribute.	M	Y
#15			the " bufOvfl " attribute in the* ReportControl/OptFields* section of SCL should be deleted.	O	Y
#17	Schema		DAI/SDI elements syntax	M	Y
#169	Appendix B		Ordering of enum differs from 7-3	M	Y
#245			Empty RptId	M	Y
#529			Sev	M	Y

3 IEC 61850 part 7-2 Tissues

Part 7-2 No	Clause/ Subclause	Paragraph Figure/ Table	Final change	M/O/-	Sup
#30	17.5.2.3		Control parameter T	M	Y
#31	14.2.3.2.3.2		Typo	M	Y
#32	14.4.2.1		Typo in syntax	M	Y
#35	17.5.2.3	Table 36	Change T attribute type from "EntryTime" to "TimeStamp".	M	Y
#36	15.2.2.3, 15,2,2,4		Syntax parameter Dset-Ref missing	M	Y
#37	15.2.3.1		Change T attribute type from "EntryTime" to "TimeStamp".	M	Y
#38	15.2.1 15.2.1.4		Change GoCB attribute name from "AppID" to "GoID".	M	Y
#39	15.2.1		Add Attribute "DstAddress" after the Attribute "NdsCom" "15.2.1.8 DstAddress The attribute DstAddress shall be the SCSM specific addressing information like media access address, priority, and other information."	M	Y
#40	15.2.3.1 15.2.3.3		GOOSE message syntax. Change Attribute name from "AppID" to "GoID".	M	Y
#41	15.3.1 15.3.4.1		GsCB class definition. Change Attribute name from "AppID" to "GsID".	M	Y
#42	16.4		Sampled value format. Change Attribute type from "EntryTime" to "TimeStamp".	M	Y
#43	17.5.2.3		Change "The parameter T shall be the time when the client sends the control requests. Add NOTE: "Control requests can be Select, Operate, or Cancel."	M	Y
#44	17		Add new AddCause value: Object-not-selected 18	M	Y
#45	17.5.2.6		Missing AddCauses	O	NA
#46	17.3.3	33, 34	Synchro check - Cancelling a command as long as no Oper_resp+ has been received, compare new state diagram	O	NA
#47	19.2		"." In LD name	M	Y
#49	14.2.2.16		BRCB TimeOfEntry	O	Y
#50	19.2		LNName start with number	M	Y
#51	05.5.2		ARRAY [0..num] missing	M	NA
#52	15.2.3.6		Ambiguity GOOSE SgNum	M	Y
#53	15.3.1, 16.2.1		Add DstAddr to GsCB,SV	M	NA
#151	19.2		Name constraint for control blocks etc.	M	Y
#166	14.3.3.2.7.3		DataRef attribute in Log	M	NA
#185	14.3.3.2.7.3		Logging – Integrity Period	M	NA
#189	16.4		SV Format	M	NA
#190	14.2.2.1		BRCB: EntryID and TimeOfEntry	O	Y
#191	14.2.2, 14.2.2.5		BRCB: Integrity and buffering reports	O	Y
#234	05.5.2		New type CtxInt	M	Y
#275	14.2.3.2.4		Confusing statement on GI usage	O	Y
#278	14.2.2.15		EntryId not valid for server	O	Y
#297	14.2.2.10		Sequence Number	M	Y
#298	14.2.2.1		Type of SgNum	M	N
#300	14.2.4.5		Attribute Resv in BRCB	O	N
#305	14.2.2.9		Reporting with BufTim=0	M	N
#322	14.2.2.1		Write Configuration Attributes of BRCB	O	N
#329	14.2.3.2.2.8		Reporting and BufOvl	M	N
#332	14.2.3.2.3.2		Ambiguity in use of trigger options	M	N
#333	15.2.1.3		Enabling of an incomplete GoCB	M	N
#335	14.2.3.2.2.8		Clearing of BufOvl	M	N
#348	14.2.5.2		URCB class and report	M	N

Part 7-2 No	Clause/ Subclause	Paragraph Figure/ Table	Final change	M/O/-	Sup
#349	14.2.2.16		BRCB TimeOfEntry has two definitions	M	N
#453	14		Reporting and Logging model revision	O	N

4 IEC 61850 Part 7-3 Tissues

Part 7-3 No	Clause/ Subclause	Paragraph Figure/ Table	Final change	M/O/-	Sup
#28	7.6.2	Table 38	APC: change the fc of setMag to CO, like for all controllable CDCs (naturally also for origin and operTm). Add the attribute ctlNum(fc=CO)like for other controllable CDCs. Add the attribute mag with fc=MX for the back indication from the process.	M	NA(not yet used CDC)
#54	6.11		Point def xVal, notCval	M	NA
#55	7.4.5		neut = Ires?	M	NA
#60		General	Services missing in tables	M	NA
#63		General	mag in CDC CMV	M	Y
#65		General	Deadband calculation of a Vector and trigger option	M	NA
#219	7.3.5		operTm in ACT	M	NA
#270	7.4.5, 7.4.6		WYE and DEL rms values	M	NA, RMS or DFT
#469			operTimeout attribute (FC = CF, AC_CO_O), dataType INT32U will be added to SPC, DPC, INC, BSC, ISC, APC	O	Y

5 IEC 61850 Part 7-4 Tissues

Part 7-4 No	Clause/ Subclause	Paragraph Figure/ Table	Final change	M/O/-	Sup
#69	5.5.8		FltDis**km** as is (compare 7-4 Am 1 CD), Change LinLen**Km** to Linlen**km**	O	NA
#72			Introduction of a new LN MMTN like MMXN for single phase metering. In the new LN MMTN there should be new data for the single phase metering quantity, i.e. PhWh, PhVArh, PhAh. For each phase the user has to create an instance.	O	NA
#73	5.11.3 5.11.4		In case additional measuring points are necessary, don't use numbered extension of data but use a different instance of the LN SIMG (SIML) (Should be solved via new process monitoring approach)	O	
#75	5.7.1	Str, Op	Str and Op in GAPC shall be optional.	O	NA
#76	6	CBOpCap SwOpCap	Put it into optional. In Retrofit situation the information may not be available for the SAS.	O	Y
#79			Add new AutoRecSt status value 4 – unsuccessfull Use the optional data "OpCnt" for LN RREC to indicate the reclosing cycle in progress. This counter will set to 0 if the AutoRecSt is in status ready **OR** a new DO for the counter may be required since OpCnt already has a semantic definition.	O	N
#80			Change TCTR and TVTR Amp / Vol from Mandatory to Conditional	O	NA

Part 7-4 No	Clause/ Subclause	Paragraph Figure/ Table	Final change	M/O/-	Sup
#82	5.10		Create a new logical node MCXL class as it is shown in the Figure 1. In that figure one can be can seen the LN performance as well as related attributes	O	NA
#83	5.6.6		Add new attributes to CSWI logical node as show in the Figure 2. The data attribute type should be ACI (new CDC)or ACT with the adding of the origin attribute	O	NA
#343	5.9.4		ParOp will be used only for switching between the independent and parallel operation of the ATCC and, therefore, shall be of CDC SPC.	O	Y

6 IEC 61850 Part 8-1 Tissues

Part 8-1 No	Clause/ Subclause	Paragraph Figure/ Table	Final change	M/O/-	Sup
#116			A MMS GetNameList request with a non-existing domain shall be responded by "Confirmed Error-PDU"	M	Y
#118	23.1		When the last character of FileName is the file seperator it's a directory. E.g. "LD\KEMA" is a file and "LD\KEMA\" is a directory	O	Y
#119			MMS GetCapabilityList required	O	M
#121			GOOSE Subscribing	O	M
#165			GetDataSetValues request with a non-existent DataSet should result in an MMS ErrorResponse of Class= ACCESS and Error Code= OBJECT-NON-EXISTENT	M	Y
#177	17.1.1.2	Table 39	The server ignores the buffer-overflow and entryID bits in a write request of the (U)RCB-OptFlds and the value is always 0 when reading these bits	O	NA
#183	9.3	Table 17	When the client request a MMS getNamelist with an unknown domain object reference, the server replies with an MMS ServiceError with errorClass access object-non-existent. Update table 17	M	Y
#196	Annex E		The ctlVal and Oper data attribute should be configured in SCL as follows: <DA name="ctlVal" fc="CO" bType="<BOOLEAN>" /> <DA name="Oper" fc="CO" bType="Struct" type="<myOper>"	O	Y
#198	See #114		If the IEC 61850-6 RCB attribute "index" is TRUE, the RCB (URCB or BRCB) instance numbering shall start with 01 and progress through 99. Two digits of instance numbering is mandatory. If the IEC 61850-6 RCB attribute "index" is FALSE, the RCB (URCB or BRCB) instance shall be with **instance number of 01."**	O	N
#235	8.1.2.3		Extension of Name length	M	Y
#246	3	Table 20	Control Negative Responses	M	NA
#545	23.1		File Directories	M	Y

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