



World Radiocommunication Seminar 2016
12 – 16 December 2016



Coordination Request - Exercises












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International Telecommunication Union

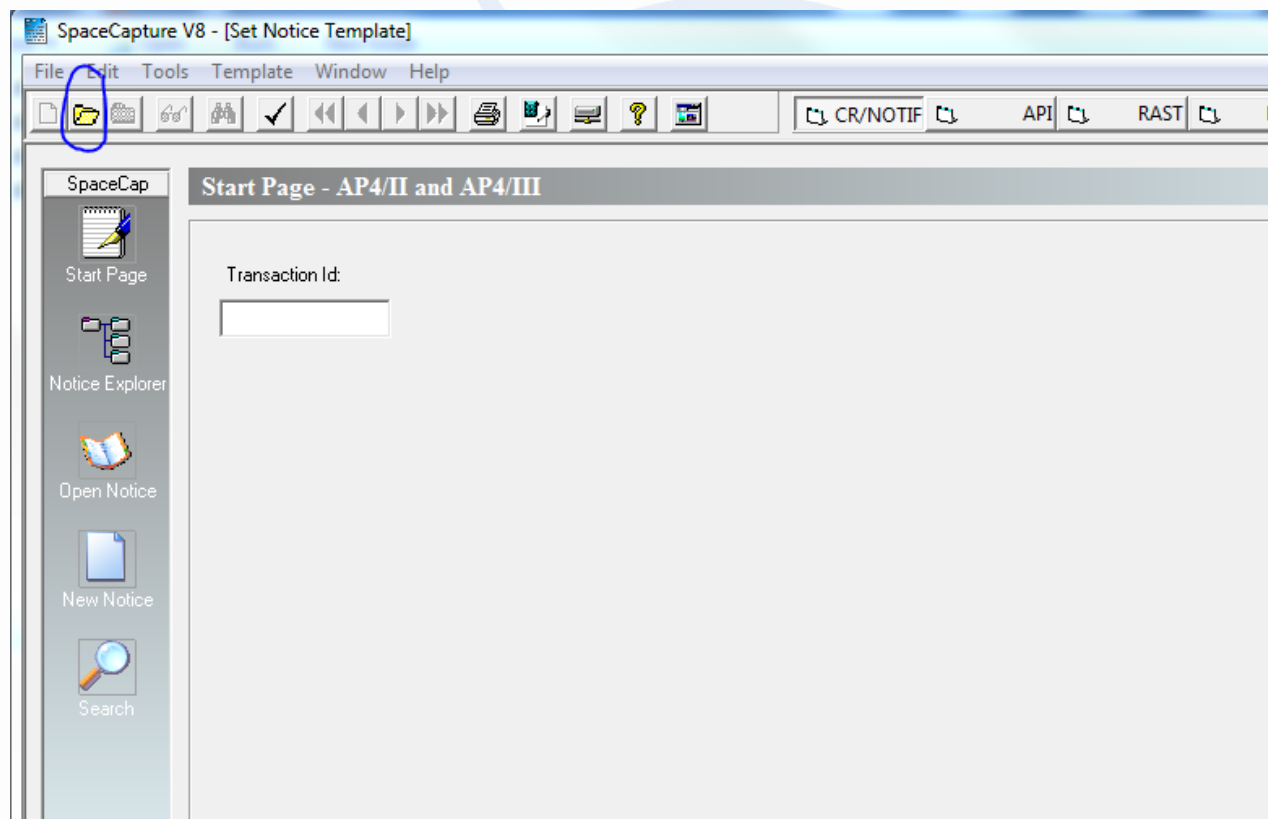
Coordination exercises can be found in the following directory:

- ▲  WRS-16
 - ▷  BRIFIC-2834
 - ▷  ITU and ITU-R Promotional material
 - ▷  Plenary Sessions (12-14 Dec)
 - ▲  Space_Workshops_(14-16-Dec)
 -  01-BRsoft-installation
 -  02-Receiveability
 -  03-Costrecovery
 - ▲  04-Coordination-request-exercise
 - ▷  EXERCISE1
 - ▷  EXERCISE2



EXERCISE 1








WRS16 ▶ 04-Coordination-request ▶ EXERCISE1 ▶

Documents library

EXERCISE1

Name

-  SOLUTIONS
-  FIRST-GEOSAT.mdb
-  FIRST-GEOSAT GIMS.mdb



SpaceCapture V8 - [Set Notice Template]

File Edit Tools Template Window Help

CR/NOTIF API RAST PLAN RS49/

Notice Explorer - AP4/II and AP4/III

Notice.id	Type	Adm./Org.	Orb. Pos.	Station name	Date rcv.	Status
List of notices Count=1						
000000001 [A]	G	SEY/	136E	FIRST-GEOSAT	22.06.2016	01

Control Box

- Show
- Clone
- Export
- Delete
- To SNS
- CFEX
- SpaceVal
- Esub
- RS49/552

Current DB : C:\04-Coordination-request-exercise\EXERCISE1\FIRST-GEOSAT.mdb 9:24 AM

SpaceCapture V8 - [Set Notice Template]

File Edit Tools Template Window Help

CR/NOTIF API RAST PLAN RS49/

Notice Explorer - AP4/II and AP4/III

Notice id.	Type	Adm./Org.	Orb. Pos.	Station name	Date rcv.	Status
000000001[A]	G	SEY/	136E	FIRST-GEOSAT	22.06.2016	01

Count=1

- Beam id: B2R
 - Group id: 735
 - Group id: 736
- Beam id: BSR
 - Group id: 64
 - Group id: 65
 - Group id: 72
 - Group id: 73
- Beam id: UK2R (Selected)
- Group id: 153
- Group id: 154
- Beam id: B1R
- Beam id: B3R
- Beam id: BSR

Control Box

- Show
- Clone
- Export
- Delete
- To SNS
- CFEX
- SpaceVal
- Esub
- RS49/552

Current DB : C:\04-Coordination-request-exercise\EXERCISE1\FIRST-GEOSAT.mdb

9:25 AM

SpaceCapture V8 - [Set Notice Template]

File Edit Tools Template Window Help

CR/NOTIF API RAST PLAN RS49/

SpaceCap

Start Page

Notice Explorer

Open Notice

New Notice

Search

Notice Explorer - AP4/II and AP4/III

Notice id.	Type	Adm./Org.	Orb. Pos.	Station name	Date rcv.	Status
List of notices Count=1						
000000001 [A]	G	SEY/	136E	FIRST-GEOSAT	22.06.2016	01
Beam id:	B2R					
Beam id:	BSR					
Beam id:	UK2R					
Beam id:	B1R					
Beam id:	B3R					
Beam id:	BSR					

Control Box

- Show
- Clone
- Export
- Delete
- To SNS
- CFEX
- SpaceVal
- Esub
- RS49/552

Current DB : C:\04-Coordination-request-exercise\EXERCISE\FIRST-GEOSAT.mdb

9:26 AM



SpaceVal Dialog

Initiate Validation for:
Dbname: D:\04-Coordination-request\EXERCISE1\FIRST-GEOSAT.mdb
Ntc ID: 1 Adm: SEY Sat Name: FIRST-GEOSAT Orb Pos: 135 Action:A Status:01 D_RCV:
22/06/2016

Enter parameters for SpaceVal

Error message and level selection

Show fatal messages only Show all messages

Validation Options

Straps not provided - optional under appendix 4 (WRC2007)
 Check frequency overlap using assigned frequency bandwidth

Graphical Data Cross Validation

Cross Validate

GIMS Database (.mdb)

Press control button to start SpaceVal



SNS Validation Errors

Rule Report First Prev Next Last Space Rules Earth Rules Plan Rules Items Summary Fatal All Errors

Validation Report for 1 User SAMUAL created on 04/12/2016 18:49:56 with SpaceVal 8.0

D:\04-Coordination-request\EXERCISE1\FIRST-GEOSAT.mdb

Ntc ID: 1 Adm: SEY Sat Name: FIRST-GEOSAT Orb Pos: 135 Action:A Status:01 D_RCV: 22/06/2016

Fatal Errors: 2 Warnings: 0

Beam	E/R	Grp id	Table	Field	Value	Row no	Val err	Rule	Severit	Ap4_Ref	Text
			geo	tol_west			103	1	F	A.4.a.2.b	Value missing
B2R	R	735	grp	noise_t			643	3	F	C.5.A	Value missing, item 500 = "R" and item 666 <> "P"



GeoStationary Notice:1

Notice **Station** Beam Strapping Noise Gamma Attachments

Notice Id: **1** Administration: **SEY** Status: **01** Date: **27/11/2009**

A1a. Identity of the Satellite Network: **FIRST-GEOSAT**

A4a. For GeoStationary Satellites Only

1. Nominal Orbital Longitude (Degrees) E/W 2. Longitudinal tolerance (Degrees)

135.00 E a. To West **0.1** b. To East 0.1

2c. Inclination Excursion: 0.1 °

A16a. Commitment to meet off-axis power limitations (applicable bands 12.75-13.25 GHz, 13.75-14.5 GHz and 29.5-30 GHz) Yes No N/A

A17a. Commitment to meet power-flux density limits (applicable bands 1164-1215 MHz) Yes No N/A

A18a. Commitment of aircraft earth station (applicable bands 14-14.5 GHz) Yes No N/A

A16c. Commitment to meet separation distance of No. 5.509E and PFD limits of 5.509D Yes No N/A

BR96 Commitment under resolves 1.5 of Res 156 Yes No N/A

List of Available Beams

- Beam B2R
- Beam BSR
- Beam UK2R
- Beam B1R
- Beam B3R
- Beam BSR



GeoStationary Notice:1

Coordination Notice	Assoc Earth Station Station	Assoc Space Station Beam	Steering Group	Noise Gamma Emissions	Attachments Frequencies
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Notice: 1 Satellite Network: FIRST-GEOSAT Beam Id: B2R R Group Id: 735

3. Observed Frequencies and Related Characteristics

Add Mod Sup of the group BR Identification of the Group to be modified/suppressed Page No.

Characteristics Common to a Group of Frequencies **General Characteristics**

C3a. Assigned Frequency Bandwidth: 300000 (kHz)

No Sensors Active Sensors Passive Sensors

C4a. Cls Stn	C4b. Nat Srv
EC	CP

C2c. compliance with No. 4.4 of the Radio Regulations
 BR97 No.11.43A BR98 For use in accordance with Resolution 163/164

C6. Polarization Type: M Mixed Polarization
If linear, provide angle: °

C5a. Receiving System Noise Temperature: 500 Kelvins

C11a. Service Area as List of Countries or Geographic designations

Service Area Number: 1

Remarks:



SNS Validation Errors

Rule Report First Prev Next Last Space Rules Earth Rules Plan Rules Items Summary Fatal Export

Validation Report for 1 User SAMUEL created on 04/12/2016 19:05:50 with SpaceVal 8.0
D:\04-Coordination-request\EXERCISE1\FIRST-GEOSAT - SOLUTION.mdb
Ntc ID: 1 Adm: SEY Sat Name: FIRST-GEOSAT Orb Pos: 135 Action:A Status:01 D_RCV: 22/06/2016
Fatal Errors: Warnings:

Beam	E/R	Grp id	Table	Field	Value	Row no	Val err	Rule	Severit	Ap4_Ref	Text
											VALIDATION COMPLETED; v8.0; NO ERRORS FOUND

SpaceCapture V8 - [Set Notice Template]

File Edit Tools Template Window Help

CR/NOTIF API RAST PLAN RS49/552

SpaceCap

Start Page

Notice Explorer

Open Notice

New Notice

Search

Notice Explorer - AP4/II and AP4/III


Notice.id	Type	Adm./Org.	Orb. Pos.	Station name	Date rcv.	Status
List of notices Count=1						
000000001 [A]	G	SEY/	136E	FIRST-GEOSAT	22.06.2016	01
Beam id: B2R						
Beam id: BSR						
Beam id: UK2R						
Beam id: B1R						
Beam id: B3R						
Beam id: BSR						

Control Box

- Show
- Clone
- Export
- Delete
- To SNS
- CFEX
- SpaceVal
- Esub
- RS49/552

Current DB : C:\04-Coordination-request-exercise\EXERCISE1\FIRST-GEOSAT.mdb

11:15 AM



SpaceVal Dialog

Initiate Validation for:
Dbname: C:\04-Coordination-request-exercise\EXERCISE1\FIRST-GEOSAT.mdb
Ntc ID: 1 Adm: SEY Sat Name: FIRST-GEOSAT Orb Pos: 136 Action:A Status:01 D_RCV:
22.06.2016


Enter parameters for SpaceVal

Error message and level selection
 Show fatal messages only Show all messages

Validation Options
 Straps not provided - optional under appendix 4 (WRC2007)
 Check frequency overlap using assigned frequency bandwidth

Graphical Data Cross Validation
 Cross Validate
GIMS Database (.mdb) C:\04-Coordination-request-exercise\EXERCISE1\FIRST-GEOSAT GIMS.mdb

Press control button to start SpaceVal

A large blue arrow points from the right side of the dialog box towards the 'Browse' button in the 'Graphical Data Cross Validation' section.



Fatal Errors: **6** Warnings: **0**

Beam	E/R	Grp id	Table	Field	Value	Row no	Val err	Rule	Severit	Ap4_Ref	Text
						9000	1	F			EXTRA DIAG IN GIMS (beam_name:UK1R / emi_rcp:R / diag_type:SA / polariz:C / area_no:1)
						9000	1	F			EXTRA DIAG IN GIMS (beam_name:UK1R / emi_rcp:R / diag_type:CO / polariz:C)
						9000	1	F			EXTRA DIAG IN GIMS (beam_name:UK1R / emi_rcp:R / diag_type:GSO / polariz:C)
						9000	1	F			MISSING DIAG IN GIMS (beam_name:UK2R / emi_rcp:R / diag_type:CO / polariz:C)
						9000	1	F			MISSING DIAG IN GIMS (beam_name:UK2R / emi_rcp:R / diag_type:GSO / polariz:C)
						9000	1	F			MISSING DIAG IN GIMS (beam_name:UK2R / emi_rcp:R / diag_type:SA / polariz:C / area_no:1)

SpaceCapture V8 - [Set Notice Template]

File Edit Tools Template Window Help

CR/NOTIF API RA


SpaceCap

- Start Page
- Notice Explorer
- Open Notice
- New Notice
- Search

Notice Explorer - AP4/II and AP4/III


Notice id	Type	Adm./Org.	Def. Pos.	Station name	Date rcv.	Status
List of notices						
000000001[A]	G	SEY/	136E	FIRST-GEOSAT	22.06.2016	01
Beam id:	B2R					
Beam id:	BSR					
Beam id:	UK2R					
Beam id:	B1R					
Beam id:	B3R					
Beam id:	BSR					

- Open Notice
- Show Selected Entity
- View History
- Print Notice
- Export Notice(s)
- Clone
- Delete
- Rename Beam
- Modify Beam Action Code
- Delete Notice and Grp Links
- Create Notice Links
- Create Grp Links

A blue arrow points from the right side of the screen towards the 'Rename Beam' option in the context menu.



Question

 **New Beam Name**

New Beam is a

Receiving Beam Transmitting Beam



SpaceCapture V8 - [Set Notice Template]

File Edit Tools Template Window Help

CR/NOTIF API RAST PLAN RS49/5

SpaceCap

- Start Page
- Notice Explorer
- Open Notice
- New Notice
- Search

Notice Explorer - AP4/II and AP4/III

Notice id.	Type	Adm./Org.	Orb. Pos.	Station name	Date rcv.	Status
List of notices Count=1						
000000001[A]	G	SEY/	136E	FIRST-GEOSAT	22.06.2016	01
Beam id: B2R						
Beam id: BSR						
Beam id: UK1R						
Group id: 153						
Group id: 154						
Beam id: B1R						
Beam id: B3R						
Beam id: BSR						

Control Box

- Show
- Clone
- Export
- Delete
- To SNS
- CFEX
- SpaceVal
- Esub
- RS49/552

SpaceCapture V8 - [Set Notice Template]

File Edit Tools Template Window Help

CR/NOTIF API RAST PLAN RS49

SpaceCap

- Start Page
- Notice Explorer
- Open Notice
- New Notice
- Search

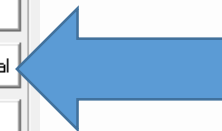
Notice Explorer - AP4/II and AP4/III

Notice id.	Type	Adm./Org.	Orb. Pos.	Station name	Date rcv.	Status
List of notices Count=1						
000000001 [A]	G	SEY/	136E	FIRST-GEOSAT	22.06.2016	01
Beam id: B2R						
Beam id: BSR						
Beam id: UK1R						
Beam id: B1R						
Beam id: B3R						
Beam id: BSR						

Control Box

- Show
- Clone
- Export
- Delete
- To SNS
- CFEX
- SpaceVal
- Esub
- RS49/552

Current DB : C:\04-Coordination-request-exercise\EXERCISE1\FIRST-GEOSAT.mdb 11:26 AM



SpaceVal Dialog

Initiate Validation for:
Dbname: C:\04-Coordination-request-exercise\EXERCISE1\FIRST-GEOSAT.mdb
Ntc ID: 1 Adm: SEY Sat Name: FIRST-GEOSAT Orb Pos: 136 Action:A Status:01 D_RCV:
22.06.2016

Enter parameters for SpaceVal

Error message and level selection

Show fatal messages only Show all messages

Validation Options


Straps not provided - optional under appendix 4 (WRC2007)
 Check frequency overlap using assigned frequency bandwidth

Graphical Data Cross Validation

Cross Validate

GIMS Database (.mdb) C:\04-Coordination-request-exercise\EXERCISE1\FIRST-GEOSAT GIMS.mdb

Press control button to start SpaceVal

A large blue arrow points from the right side of the dialog box towards the 'Browse' button in the 'Graphical Data Cross Validation' section.



SNS Validation Errors

Rule Report First Prev Next Last Space Rules Earth Rules Plan Rules Items Summary Fatal Export

Validation Report for 1 User LOO created on 05.12.2016 11:27:37 with SpaceVal 8.0
C:\04-Coordination-request-exercise\EXERCISE1\FIRST-GEOSAT.mdb

Ntc ID: 1 Adm: SEY Sat Name: FIRST-GEOSAT Orb Pos: 136 Action:A Status:01 D_RCV: 22.06.2016

Fatal Errors: Warnings:

Beam	E/R	Grp id	Table	Field	Value	Row no	Val err	Rule	Severit	Ap4_Ref	Text
											VALIDATION COMPLETED: v8.0: NO ERRORS FOUND



EXERCISE 2





SpaceCapture V8 - [Set Notice Template]

File Edit Tools Template Window Help

CR/NOTIF API RAST PLAN RS49/55

SpaceCap

- Start Page
- Notice Explorer
- Open Notice
- New Notice
- Search

Notice Explorer - AP4/II and AP4/III

Notice id.	Type	Adm./Org.	Orb. Pos.	Station name	Date rcv.	Status
List of notices						
Count=1						
000000001 [A]	G	SEY/	5E	SECOND-GEOSAT	05.12.2016	01

Control Box

- Show
- Clone
- Export
- Delete
- To SNS
- CFEX
- SpaceVal
- Esub
- RS49/552

Current DB : C:\04-Coordination-request-exercise\EXERCISE2\SECOND-GEOSAT.mdb

10:14 AM

SpaceCapture V8 - [Set Notice Template]

File Edit Tools Template Window Help

CR/NOTIF API RAST PLAN RS49/

Notice Explorer - AP4/II and AP4/III

Notice id	Type	Adm./Org.	Orb. Pos.	Station name	Date rcv.	Status	Count=1
000000001	[A] G	SEY/	5E	SECOND-GEOSAT	05.12.2016	01	

List of notices

- Beam id: RU2R
 - Group id: 1
 - Group id: 2
 - Group id: 3

Control Box

- Show
- Clone
- Export
- Delete
- To SNS
- CFEX
- SpaceVal
- Esub
- RS49/552

Current DB : C:\04-Coordination-request-exercise\EXERCISE2\SECOND-GEOSAT.mdb 10:16 AM



GeoStationary Notice:1

Frequencies	Coordination	Special Section	Assoc Earth Station	Assoc Space Station
Strapping	Noise Gamma	Attachments	Group	Emissions
Notice	Station	Beam		

Notice: 1 Satellite Network: SECOND-GEOSAT Beam Id: RU2R R Group Id: 1 Split Grp Id:

3. Observed Frequencies and Related Characteristics

Add Mod Sup of the group BR Identification of the Group to be modified/suppressed Page No. BR Data

Characteristics Common to a Group of Frequencies **General Characteristics**

C3a. Assigned Frequency Bandwidth: 250000 (kHz)

No Sensors
 Active Sensors
 Passive Sensors

C4a. Cls Str	C4b. Nat Srv
EC	CP

C6. Polarization: Type: M Mixed Polarization
If linear, provide angle: °

C5a. Receiving System: Noise Temperature: 500 Kelvins

C2c. compliance with No. 4.4 of the Radio Regulations
 BR98 For use in accordance with Resolution 163/164

C11a. Service Area as List of Countries or Geographic designations

Service Area Number: 1

Current DB : C:\04-Coordination-request-exercise\EXERCISE2\SECOND-GEOSAT.mdb Receiving System noise temperature



GeoStationary Notice:1

Strapping Notice	Noise Gamma Station	Attachments Beam	Group	Emissions
Frequencies	Coordination	Special Section	Assoc Earth Station	Assoc Space Station

Notice Id: 1 Adm: SEY Satellite Network: SECOND-GEOSAT Beam Id: BU2B.R Group Id: 1

C10b2. Type of Station: Typical Specific

C10b1. Associated Earth Station Name: TYPICAL KU1

Old Station Name (if changed):

of the station: Add Mod Sup

C10d1. Cls Stn	C10d2. Nat Srv
TC	CP

C10d. Antenna Characteristics

3. Maximum Isotropic Gain: 62.2 +/- dBi

4. Beamwidth: 0.12 Degrees

7. Diameter: 11 Meters

9. Dgso: Meters

C8g1. Max Aggregate Power: dBW

C8g2. Aggregate Bandwidth: kHz

C8g3. Bandwidth Corresponds to Aggr Bandwidth:

Antenna Radiation Pattern

C10d5a1. Co-polar Radiation Pattern Id: 58

A-25*LOG(FI) ==> APENST806V01

C10d5a2. Diagram attached. See Attachment no.:

or diagram no in Gims database:

Coefa: 29 Coefb:
Coefc: Coefd:
phi1:



- **Repeat previous 2 actions for all groups in the beam**



Attachments

Notice Station Beam Strapping Noise Gamma

Notice Id: 1 Administration: SEY Status: 01 Date: 05.12.2016

A1a. Identity of the Satellite Network **SECOND-GEOSAT**

A4a. For GeoStationary Satellites Only

1. Nominal Orbital Longitude
Degrees E/W
5.00 E

2. Longitudinal tolerance (degrees)
a. To West 0.1 b. To East 0.1

2c. Inclination Excursion
0.1 °

A16a. Commitment to meet off-axis power limitations (applicable bands 12.75-13.25 GHz, 13.75-14.5 GHz and 29.5-30 GHz) Yes No N/A

A17a. Commitment to meet power-flux density limits (applicable bands 1164-1215 MHz) Yes No N/A

A18a. Commitment of aircraft earth station (applicable bands 14-14.5 GHz) Yes No N/A

A16c. Commitment to meet separation distance of No. 5.509E and PFD limits of 5.509D Yes No N/A

BR96 Commitment under resolves 1.5 of Res 156 Yes No N/A

A17b,c,d,e Power Flux Density

List of Available Beams
Beam RU2R



SpaceVal Dialog

Initiate Validation for:
Dbname: C:\04-Coordination-request-exercise\EXERCISE2\SECOND-GEOSAT.mdb
Ntc ID: 1 Adm: SEY Sat Name: SECOND-GEOSAT Orb Pos: 5 Action:A Status:01 D_RCV:
05.12.2016

Enter parameters for SpaceVal

Error message and level selection

Show fatal messages only Show all messages

Validation Options

Straps not provided - optional under appendix 4 (WRC2007)
 Check frequency overlap using assigned frequency bandwidth

Graphical Data Cross Validation

Cross Validate

GIMS Database (.mdb)

Press control button to start SpaceVal



SNS Validation Errors

Rule Report First Prev Next Last Space Rules Earth Rules Plan Rules Items Summary Fatal Export

Validation Report for 1 User LOO created on 05.12.2016 11:36:24 with SpaceVal 8.0

C:\04-Coordination-request-exercise\EXERCISE2\SECOND-GEOSAT.mdb

Ntc ID: 1 Adm: SEY Sat Name: SECOND-GEOSAT Orb Pos: 5 Action:A Status:01 D_RCV: 05.12.2016

Fatal Errors:

Warnings:

Beam	E/R	Grp id	Table	Field	Value	Row no	Val err	Rule	Severit	Ap4_Ref	Text
											VALIDATION COMPLETED; v8.0; NO ERRORS FOUND