Advance Publication Information (API)

Chuen Chern Loo
BR/SSD/SPR

Background

- Advance Publication Information (API) is obligatory, before coordination phase or notification (No.9.1)
- First step for all bands not subject to a plan
- No priority in being first to start advance publication
- Formal date of receipt of the API (No.9.1) starts the “regulatory clock” to count towards the 7-year limit

Advance Publication Information – Radio Regulations

- Section I of Article 9 : Advance publication of information on satellite networks or satellite systems
- No.9.1:
  - Before initiating any action under this Article or under Article **11** in respect of frequency assignments for a satellite network or a satellite system, an administration, or one acting on behalf of a group of named administrations, shall, prior to the coordination procedure described in Section II of Article **9** below, where applicable, send to the Bureau a general description of the network or system for advance publication in the International Frequency Information Circular (BR IFIC) not earlier than seven years and preferably not later than two years before the planned date of bringing into use of the network or system (see also No. **11.44**).
  - The characteristics to be provided for this purpose are listed in Appendix **4**.
  - The coordination or notification information may also be communicated to the Bureau at the same time;
    - it shall be considered as having been received by the Bureau not earlier than six months after the date of receipt of the information for advance publication where coordination is required by Section II of Article **9**.
    - Where coordination is not required by Section II, notification shall be considered as having been received by the Bureau not earlier than six months after the date of publication of the advance publication information.

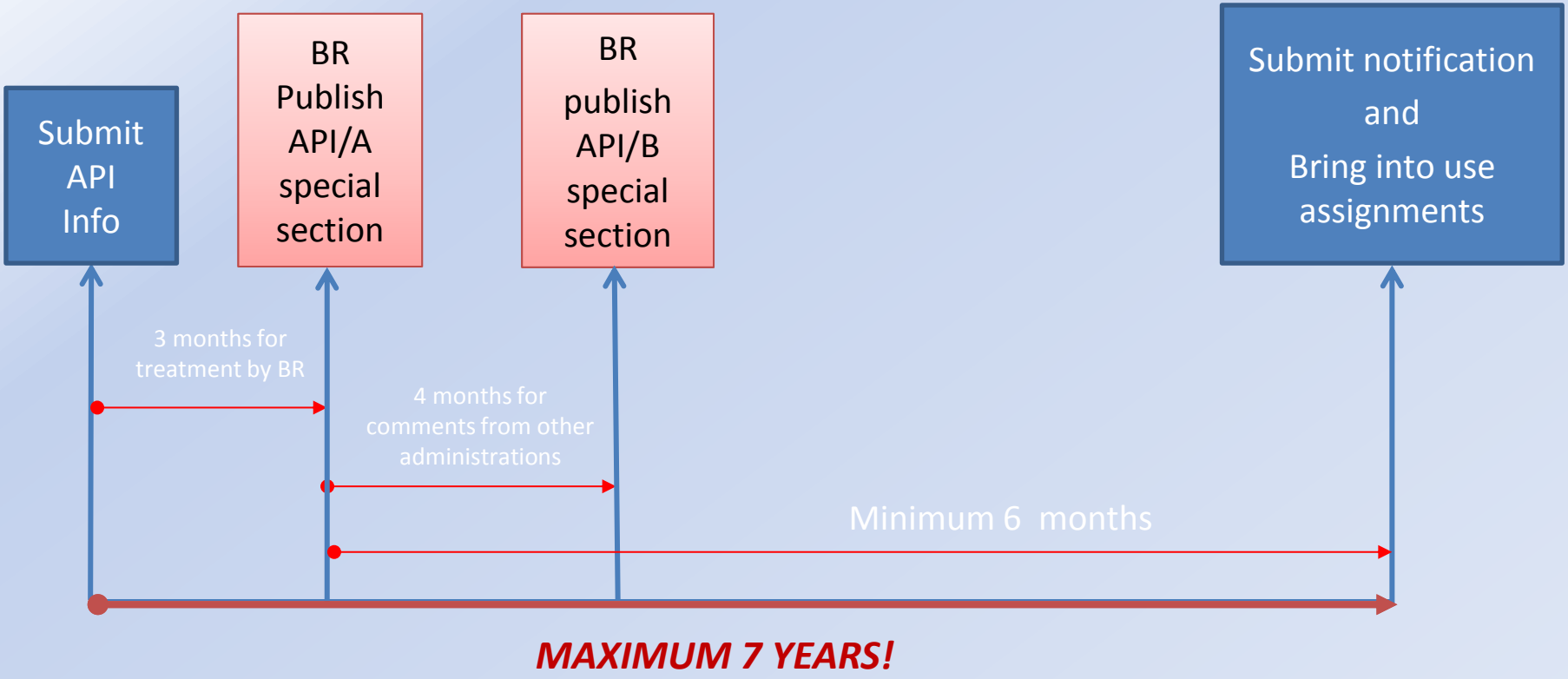
Advance Publication Information - regulations

- Actions by the Bureau
  - **No.9.2A**
    - If the information is found to be incomplete, the Bureau shall immediately seek from the administration concerned any clarification required and information not provided.
      - **See also §**3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9 of Rules of Procedure on Receivability
  - **No.9.2B**
    - On receipt of the complete information sent under Nos. **9.1** and **9.2**, the Bureau shall publish it in a Special Section of its BR IFIC within three months. When the Bureau is not in a position to comply with the time limit referred to above, it shall periodically so inform the administrations, giving the reasons therefor.

Types of API submissions - Sub-section IA

- not subject to coordination under Section II of Article 9
  - Mainly Non-GEO networks
    - Also for GEO networks with inter-satellite link operating with other space stations in bands not subject to coordination (Rules of Procedure relating to No.11.32)
  - Detailed data requirement under Appendix 4
  - Cost recovery category A1 (570 CHF)
    - Exception for Amateur satellite service
  - 4 months for comments, published in an API/B special section
  - Notification if submitted at the same time with the API, will be considered received 6 months after the date of *publication* of the API

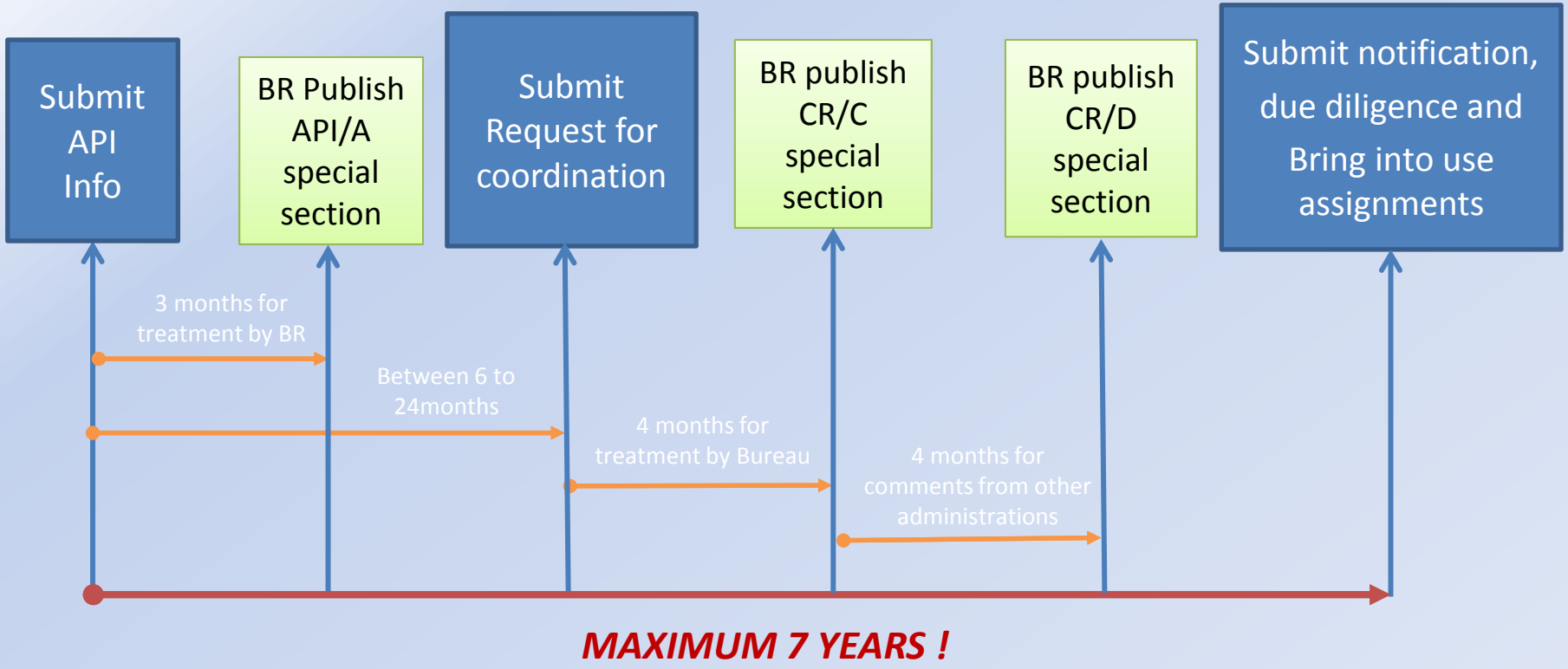
ITU Process for satellite network not subject to coordination



Types of API submissions - sub-section IB

- subject to coordination under Section II of Article 9
  - For all GEO networks
    - Except for GEO networks with inter-satellite link operating with other space stations in bands not subject to coordination (Rules of Procedure relating to No.11.32)
  - For Non-GEO networks operating in bands subject to coordination
  - Simplified data requirement under Appendix 4
  - No cost recovery fee
  - No publication of comments
  - Coordination if submitted at the same time as the API, will be considered as received 6 months after the date of *receipt* of the API
  - From 2015, submissions through SpaceWISC

ITU Process for satellite network subject to coordination



MAXIMUM 7 YEARS !

Advance Publication Information – Information required

- Annex 2 of Appendix 4
  - 3 separate columns for API
    - Advance publication of a geostationary-satellite network
    - Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9
    - Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9
- Resolution 55
  - …..shall be submitted in electronic format comptatible with the BR electronic notice form capture software (Spacecap)
- Resolution 908 and Rules of Procedure relating to Receivability
  - APIs for networks subject to coordination shall be submitted through SpaceWISC (with effect from 2015)

API special section – sub section IB

UIT ITU

UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS
BUREAU DES RADIOCOMMUNICATIONS

INTERNATIONAL TELECOMMUNICATION UNION
RADIOCOMMUNICATION BUREAU

UNIÓN INTERNACIONAL DE TELECOMUNICACIONES
OFICINA DE RADIOCOMUNICACIONES

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RÉSEAU À SATELLITE SATELLITE NETWORK RED DE SATÉLITE	GBSAT-KA-02	SECTION SPÉCIALE Nº SPECIAL SECTION No. SECCIÓN ESPECIAL N.º	API/A/8307
		BR IFIC / DATE BR IFIC / DATE BR IFIC / FECHA	2746 / 11.06.2013
ADM. RESPONSABLE RESPONSIBLE ADM. ADM. RESPONSABLE	G	LONGITUDE NOMINALE NOMINAL LONGITUDE LONGITUD NOMINAL	95 E
NUMÉRO D'IDENTIFICATION IDENTIFICATION NUMBER NÚMERO DE IDENTIFICACIÓN	113540091		
RENSEIGNEMENTS REÇUS PAR LE BUREAU LE / INFORMATION RECEIVED BY THE BUREAU ON / INFORMACIÓN RECIBIDA POR LA OFICINA EL	03.04.2013		

Ces renseignements sont publiés par le Bureau des radiocommunications en application du No. 9.2B. Ils font l'objet de la (les) procédure(s) suivante(s), indiquée(s) ci-dessous par un X dans la case pertinente.

This information is published by the Radiocommunication Bureau in accordance with No. 9.2B. It is subject to the procedure(s) indicated below by an X in the relevant box.

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	Les renseignements ont été reçus conformément à **l'Article 9, sous-section IA** Toute administration estimant que des brouillages inacceptables peuvent être causés à ses réseaux ou à ses systèmes à satellites existants ou en projet devra communiquer ses commentaires à l'administration qui a demandé la publication, avec copie au Bureau des radiocommunications, dans le délai de quatre mois qui suit la date de la présente publication.	The information has been received pursuant to **Article 9, Sub-Section IA** Any administration which believes that unacceptable interference may be caused to its existing or planned satellite networks or systems shall communicate its comments to the publishing administration, with a copy to the Radiocommunication Bureau, within four months after the date of this publication.	La información ha sido recibida de conformidad con **el Artículo 9, sub-sección IA** Toda administración que estime que pueden causarse interferencias inaceptables a sus redes o sistemas de satélites existentes o previstos comunicará sus comentarios a la administración que haya publicado la información, con copia a la Oficina de Radiocomunicaciones, en un plazo de cuatro meses contados a partir de la fecha de esta publicación.

DATE LIMITE POUR LA RÉCEPTION DES COMMENTAIRES
EXPIRY DATE FOR THE RECEIPT OF COMMENTS
FECHA LÍMITE PARA LA RECEPTIÓN DE LOS COMENTARIOS

X	Les renseignements ont été reçus conformément à **l'Article 9, sous-section IB** Toute administration estimant que ses réseaux à satellite, ses systèmes à satellites ou ses stations de terre, selon le cas, existants ou en projet, sont affectés, peut envoyer ses observations à l'administration qui a demandé la publication des renseignements, avec copie au Bureau des radiocommunications.	The information has been received pursuant to **Article 9, Sub-Section IB** Any administration which considers that its existing or planned satellite systems or networks or terrestrial stations, as appropriate, are affected, may send its comments to the administration which has requested publication of the information, with a copy of such comments to the Radiocommunication Bureau.	La información ha sido recibida de conformidad con **el Artículo 9, sub-sección IB** Cualquier administración que considere que sus sistemas o redes de satélites o estaciones terrenales, según el caso, existentes o planificados se verán afectados, podrá comunicar sus comentarios a la administración que haya solicitado la publicación de la información, enviando una copia de dichos comentarios a la Oficina de Radiocomunicaciones.

Information aussi disponible sur le / Information also available on the / Información también disponible en: Space Network Systems Online Service : http://www.itu.int/sns/advpub.html

API special section – sub section IB

SECTION SPECIALE / SPECIAL SECTION / SECCIÓN ESPECIAL / 特节 / СПЕЦИАЛЬНАЯ СЕКЦИЯ / القسم الخاص

A	*A1a* Sat. Network	GBSAT-KA-02	*A1f1* Notifying adm.	G	*A1f3* Inter. sat. org.		*BR1* Date of receipt	03.04.2013	B
BR6a/BR6b Id. no.	113540091		*BR3a* Provision reference	9.1/IB			*BR2* Adm. serial no.		

A1f2 Submitted on behalf

A4a1 Orbital long. 95 E

	BR7a/BR7b Group id.	113636841		*B2* Emi-Rcp	R	*BR1* Date of receipt	03.04.2013	*C2c* RR No. 4.4	
BR14 Special Section	API/A/8307								
A2b Period of valid.	25								
BR60 Regulatory deadline(s)	11.44/11.44.1	03.04.2020		9.5D	03.04.2015				

C1 Frequency Range			
C1a Lower limit		*C1b* Upper limit	
30	GHz	31	GHz

C4a Class of station	EC	ED	EI	EK
C4b Nature of service	OT	OT	OT	OT
C11a2 Service area	XVE			
C11a4 Service area name				

C11a3 Service area diagram

	BR7a/BR7b Group id.	113636842		*B2* Emi-Rcp	E	*BR1* Date of receipt	03.04.2013	*C2c* RR No. 4.4	
BR14 Special Section	API/A/8307								
A2b Period of valid.	25								
BR60 Regulatory deadline(s)	11.44/11.44.1	03.04.2020		9.5D	03.04.2015				

API special section – sub section IA

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RÉSEAU À SATELLITE SATELLITE NETWORK RED DE SATÉLITE	NOVASAR-S1	SECTION SPÉCIALE N° SPECIAL SECTION No. SECCIÓN ESPECIAL N.º	API/A/9514
		BR IFIC / DATE BR IFIC / DATE BR IFIC / FECHA	2780 / 14.10.2014
ADM. RESPONSABLE RESPONSIBLE ADM. ADM. RESPONSABLE	G	LONGITUDE NOMINALE NOMINAL LONGITUDE LONGITUD NOMINAL	NGSO
		NUMÉRO D'IDENTIFICATION IDENTIFICATION NUMBER NÚMERO DE IDENTIFICACIÓN	114540576
RENSEIGNEMENTS REÇUS PAR LE BUREAU LE / INFORMATION RECEIVED BY THE BUREAU ON / INFORMACIÓN RECIBIDA POR LA OFICINA EL			11.08.2014

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X

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The information has been received pursuant to **Article 9, Sub-Section IA**

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La información ha sido recibida de conformidad con **el Artículo 9, sub-sección IA**

Toda administración que estime que pueden causarse interferencias inaceptables a sus redes o sistemas de satélites existentes o previstos comunicará sus comentarios a la administración que haya publicado la información, con copia a la Oficina de Radiocomunicaciones, en un plazo de cuatro meses contados a partir de la fecha de esta publicación.

DATE LIMITE POUR LA RÉCEPTION DES COMMENTAIRES
EXPIRY DATE FOR THE RECEIPT OF COMMENTS
FECHA LÍMITE PARA LA RECEPTIÓN DE LOS COMENTARIOS **14.02.2015**

Les renseignements ont été reçus conformément à **l'Article 9, sous-section IB**

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API special section – sub section IA

SECTION SPECIALE / SPECIAL SECTION / SECCIÓN ESPECIAL / 特节 / СПЕЦИАЛЬНАЯ СЕКЦИЯ / القسم الخاص — API/A/9514

A	*A1a* Sat. Network	NOVASAR-S1	*A1f1* Notifying adm.	G	*A1f3* Inter. sat. org.		*BR1* Date of receipt	11.08.2014	*BR20* BR IFIC no. 2780
BR6a/BR6b Id. no.	114540576		*BR3a* Provision reference	9.1/IA			*BR2* Adm. serial no.		AIS R

A1f2 Submitted on behalf

A4b1 No. of orbital planes: 1 — *A4b2* Ref. body: T

A4b3a No. of space stations simult. trans. on Northern Hemisphere — *A4b3b* No. of space stations simult. trans. on Southern Hemisphere

Orbital plane no.: 1

A4b4a Inclination angle: 97.7 — *A4b4b* No. of satellites in this plane: 1 — *A4b4c* Period: 0-01:36 — *A4b4d* Apogee: 580e0 — *A4b4e* Perigee: 580e0

A4b4f Min. altitude: 580e0

B1a/BR17 Beam designation: AIS — *B1b* Steerable — *B2* Emi-Rcp: R — *B3a1* Max. co-polar gain: 2

B2bis.a Transmit only when visible from notified service area — *B2bis.b* Min. Elev. Angle

B3c1 Co-polar antenna pattern

Co-polar ref. pattern	Coef. A	Coef. B				Co-polar rad. diag.
ND-SPACE						

B4a3a1 Angle alpha — *B4a3a2* Angle beta

BR92 Attach. for missing angle alpha/beta

BR7a/BR7b Group id.: 114671279 — *BR1* Date of receipt: 11.08.2014 — *C2c* RR No. 4.4: Y

BR14 Special Section: API/A/9514

C4a Class of station: EG — *C3a* Assigned freq. band — *C5a* Noise temperature: 500

C4b Nature of service: OT — *C6a* Polarization type: M — *C6b* Polarization angle

C11a2 Service area: XAA — *C11a3* Service area diagram

A2b Period of valid.: 20 — *A3a* Op. agency: 181 — *A3b* Adm. resp.: A — *BR16* Value of type C8b

BR60 Regulatory deadline(s) 11.44/11.44.1: 11.08.2021

C1 Frequency Range

C1a Lower limit		*C1b* Upper limit	
156.76	MHz	156.79	MHz

	C7a Design. of emission	*C8a1/C8b1* Max. peak pwr	*C8a2/C8b2* Max. pwr dens.	*C8c1* Min. peak pwr	*C8c2* Attch.	*C8c3* Min. pwr dens.	*C8c4* Attch.	*C8e1* C/N ratio	*C8e2* Attch.	*C8f2* E.i.r.p. on the beam axis
1	25K0F1DBT	11	-33	3		-41		15		

C7b Carrier frequency of the emissions (25K0F1DBT)

156.775	MHz

C10b1 Assoc. earth station id.	*C10b2* Type	*C10c1* Geographical coord.	*C10c2* Ctry	*C10d1/C10d2* Cls. / Nat.		*C10d3* Max. iso. gain	*C10d4* Bmwdth
AIS	T			1	TG OT	2	180

C10d5a Co-polar antenna pattern

C10b1 Assoc. earth station id.	Co-polar ref. pattern	Coef. A	Coef. B	Coef. C	Coef. D	Phi1	Co-polar rad. diag.
AIS	ND-EARTH						

13C Remarks

Modifications to API - GEO

- For GEO network, the following changes will be considered a new request, and therefore will be given a new date of receipt
  - Submission of an **additional frequency band** or
  - **modification of the orbital location by more than ±6°** for a space station using the geostationary-satellite orbit

Modifications to API
- for Non-GEO not subject to coordination

- For non-GEO network API where coordination is not required by Section II of Article 9, the following changes will be considered a new request, and therefore will be given a new date of receipt
  - modification of the reference body or
  - the modification of the direction of transmission for a space station using a non-GEO satellite orbit

Expiry of API

- API will be suppressed if no request for coordination is submitted for the bands within 24 months from API receipt (No. 9.5D)
- All special sections, including API, will be suppressed if notification or due diligence information is not submitted within 7 years of the receipt of API, or if the frequency assignments are not brought into use within the same period (No.11.48).

Software for submission

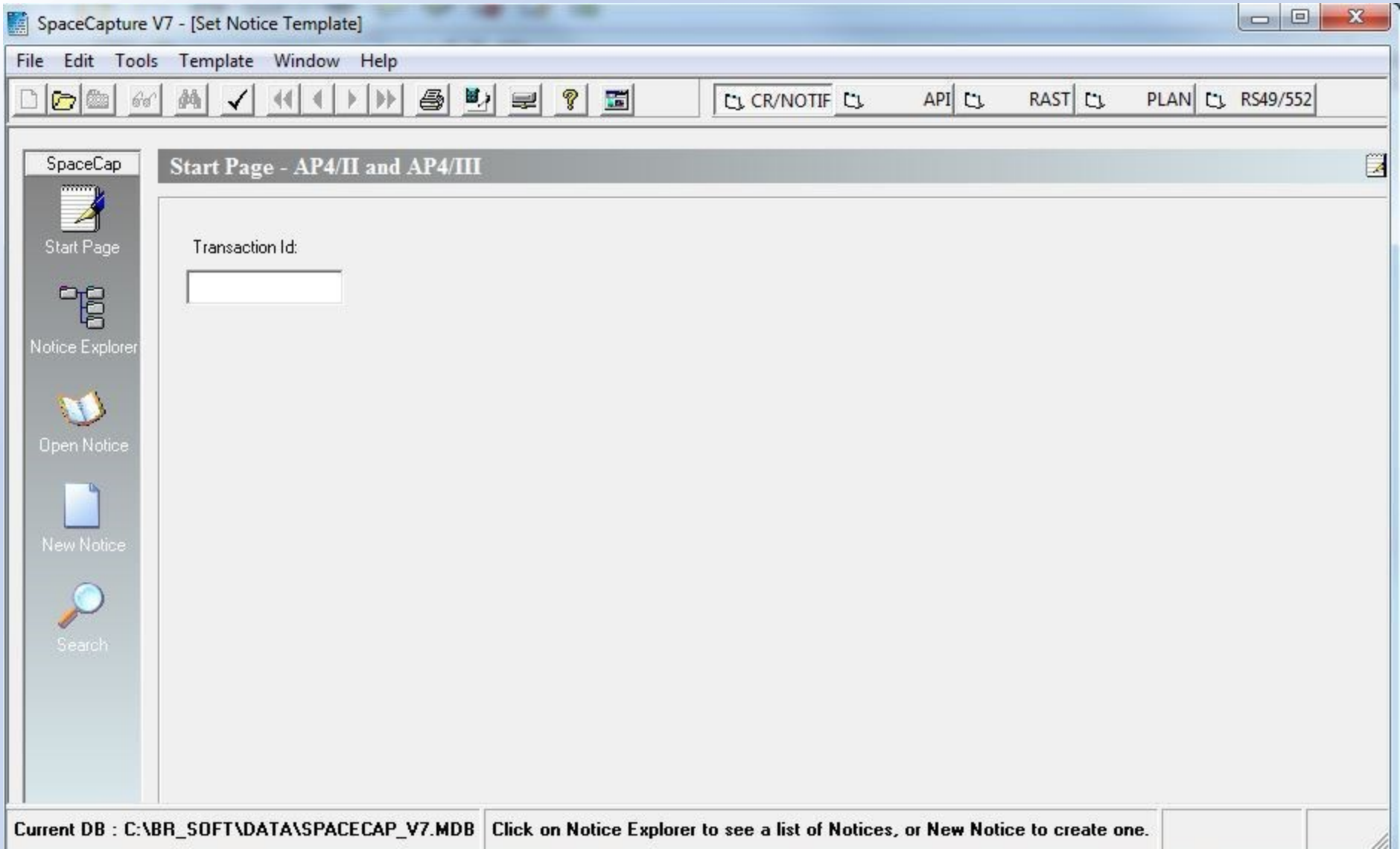
- Software
  - Spacecap – for capturing the information
    - Spaceval – for validating the information
  - Spacepub – for viewing/printing detailed information
- Database
  - Must be in SNS format

From 2015, all APIs subject to coordination must be submitted through the web-based submission system: Spacewisc

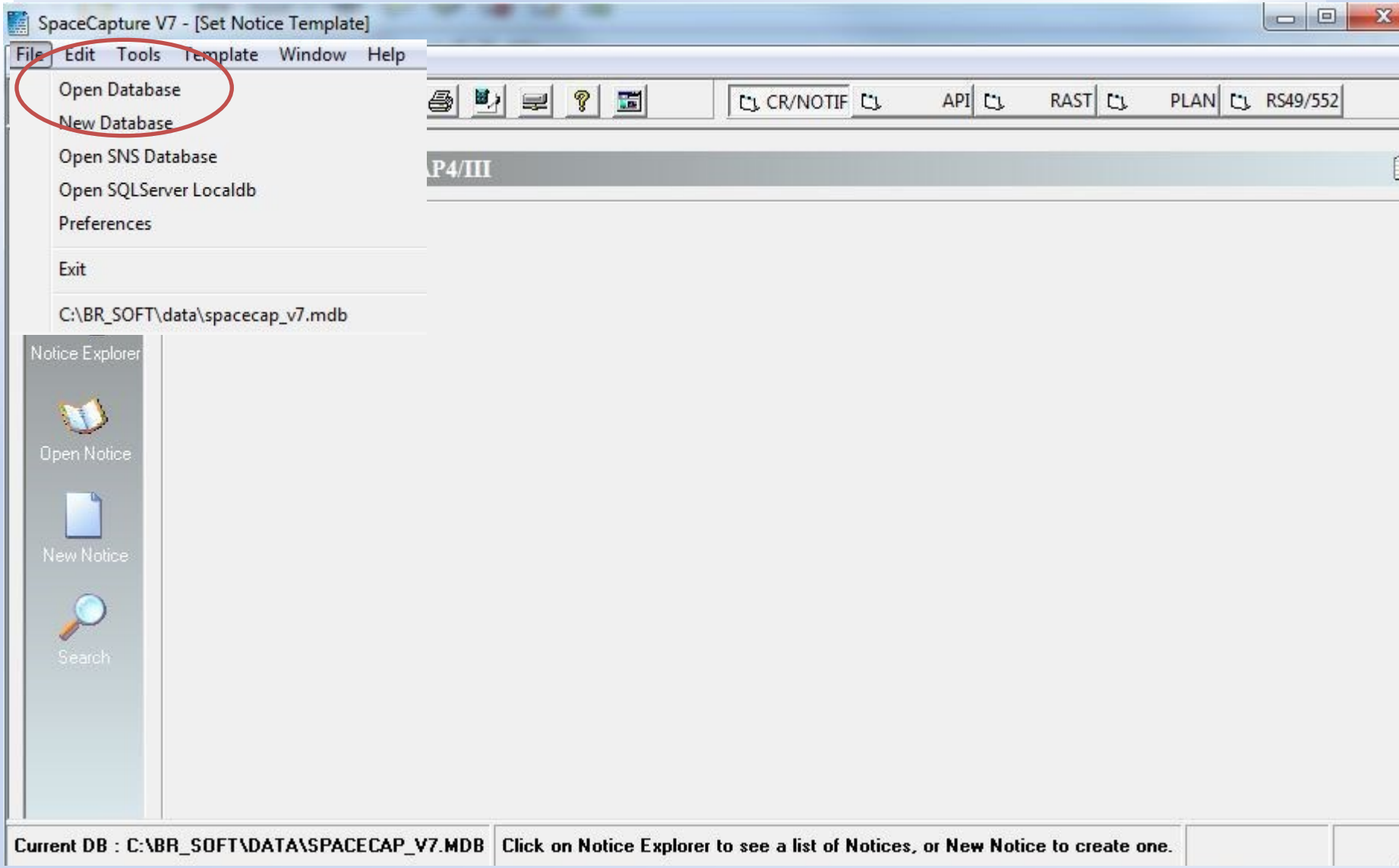
Advance Publication Information - sub-section IA

- Check against table of frequency allocations to be sure that service is allocated for that frequency band
- If service is not allocated for the band, consider selecting another band or request for the application of No.4.4
- Verify whether the frequencies are subject or not subject to coordination
- Check that information is complete
  - Run Spaceval to make sure there is no fatal error
- Check that antenna radiation patterns are submitted where necessary for space station and earth station
- Frequency band at the API stage should not be too narrow

Launch Spacecap



Spacecap – open database

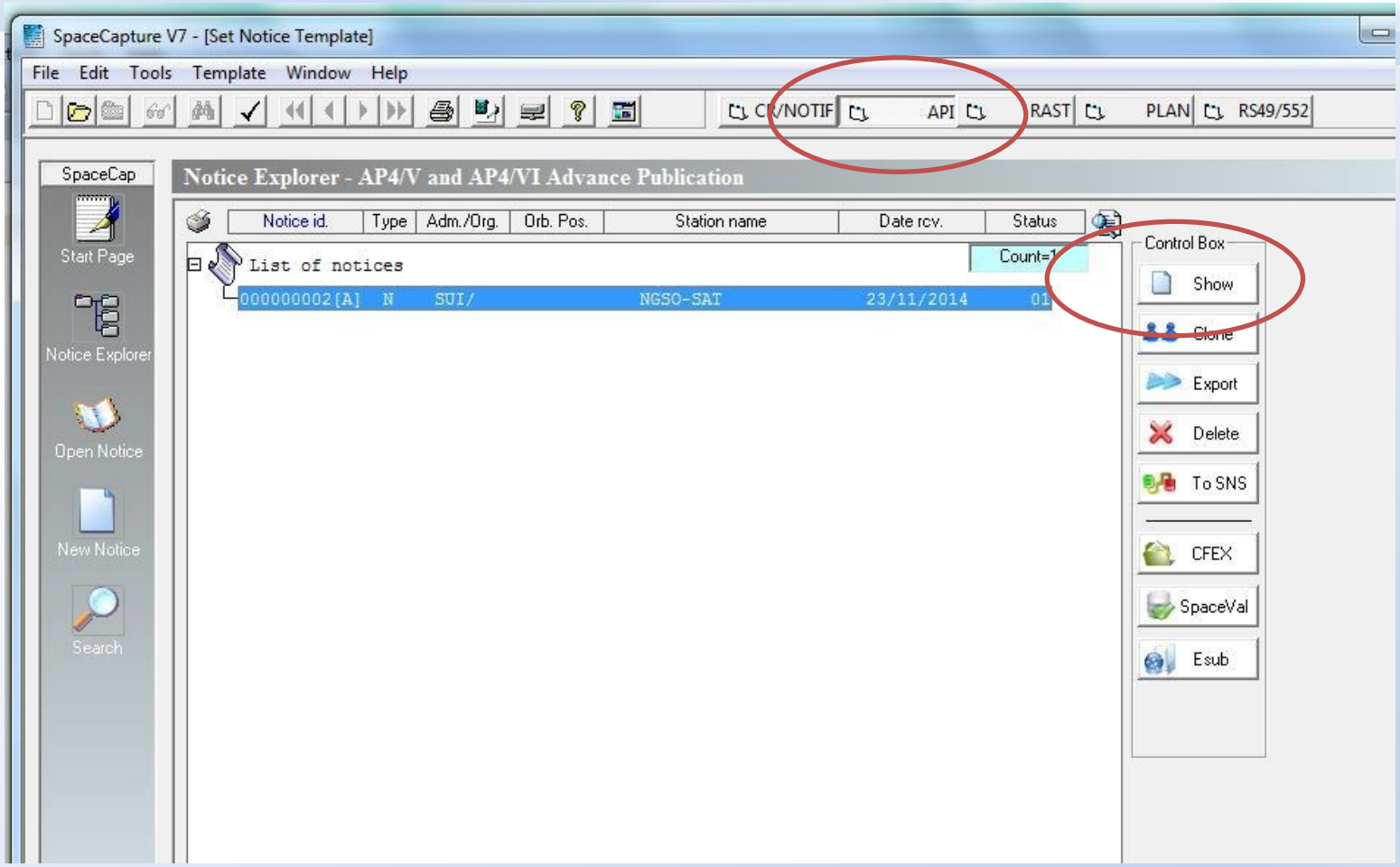


Validation exercise – for delegates during BR seminar

- Open the following file from your USB key:
  - \WRS-14\Space Workshops\SPR\API\ exercise - NGSO not subj to coord\

    API NGSO exercise.mdb

Validation exercise

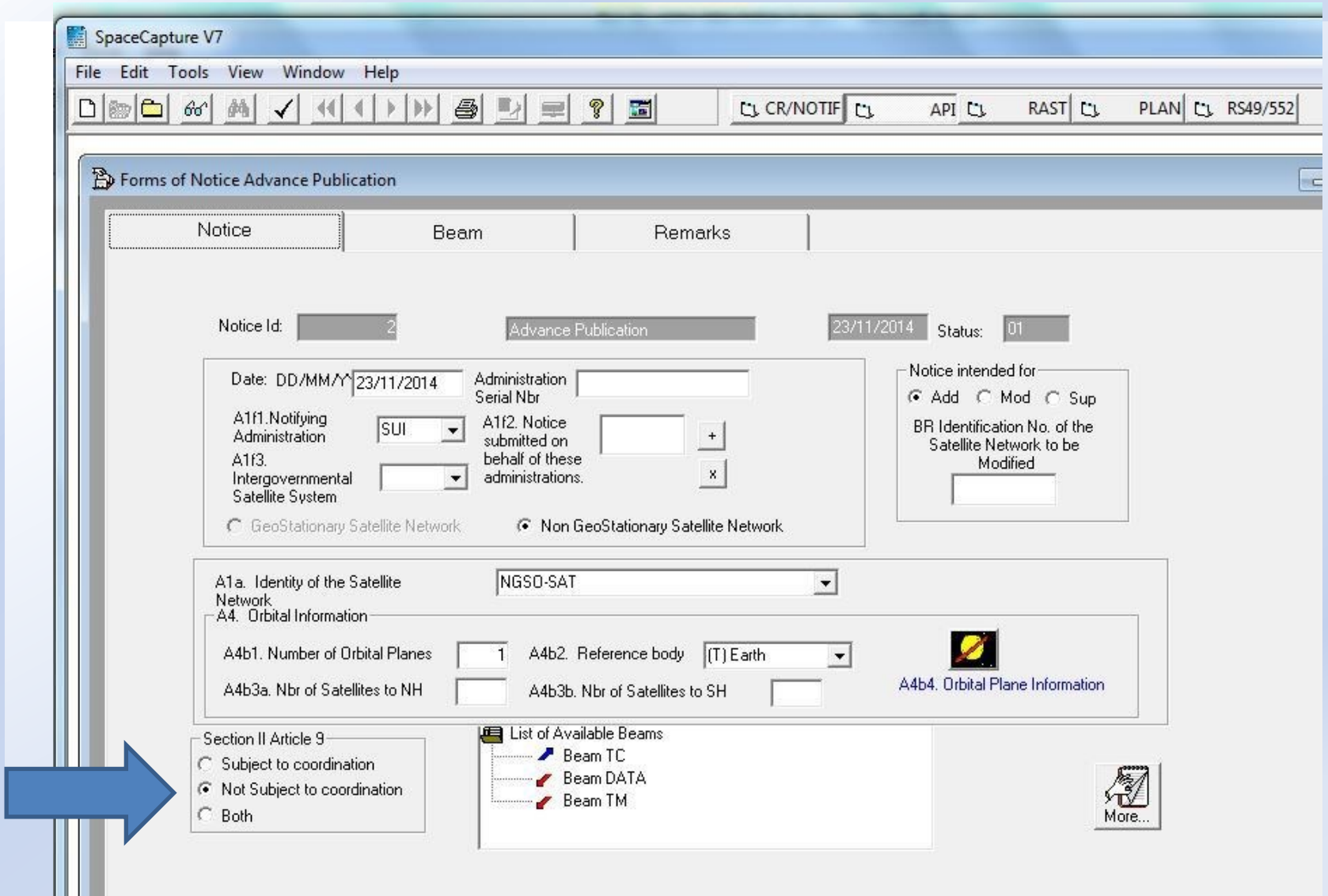


Directory: \WRS-14\Space Workshops\SPR\API\exercise - NGSO not subj to coord\

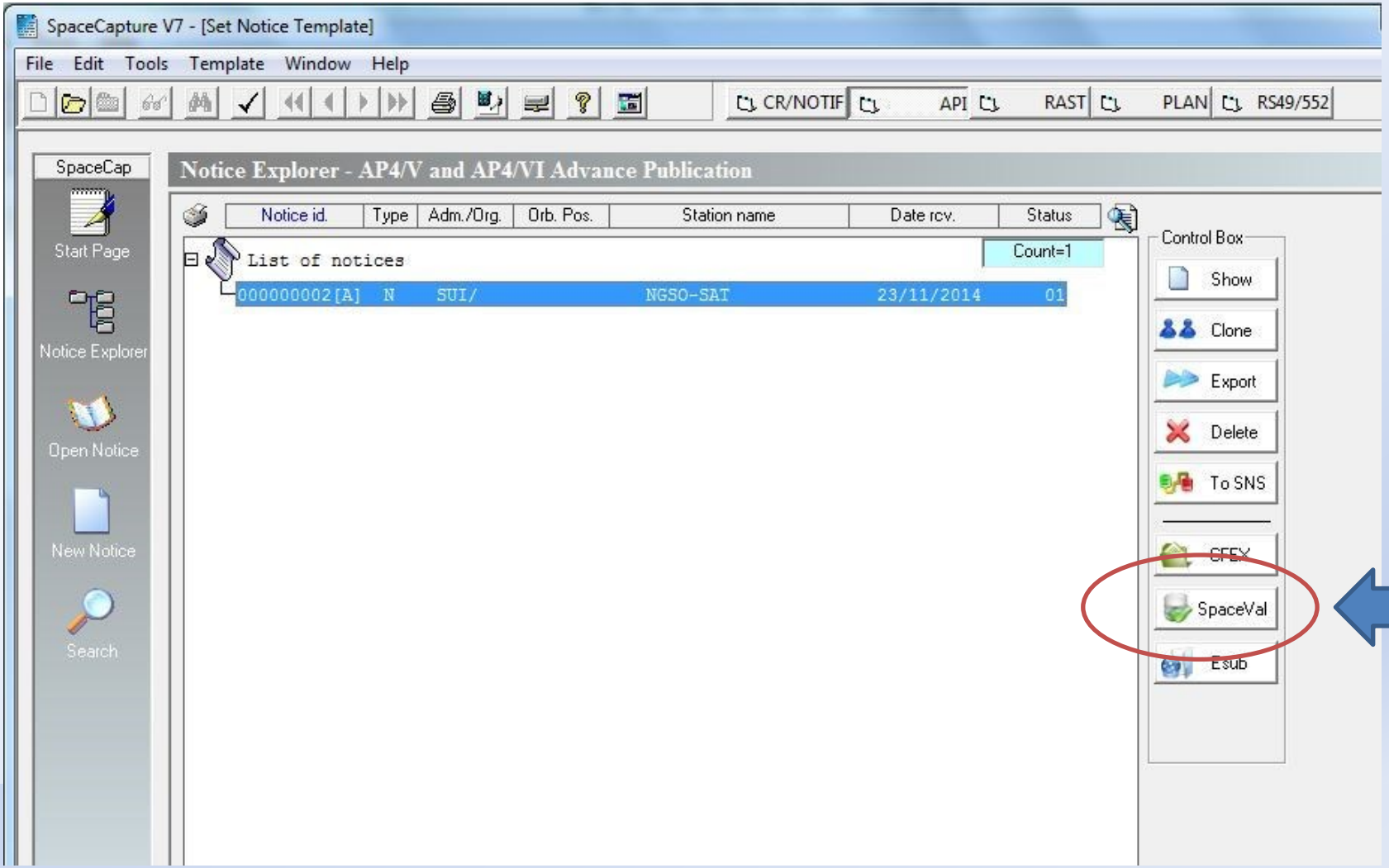
Filename: API NGSO exercise.mdb

Viewing in Spacecap

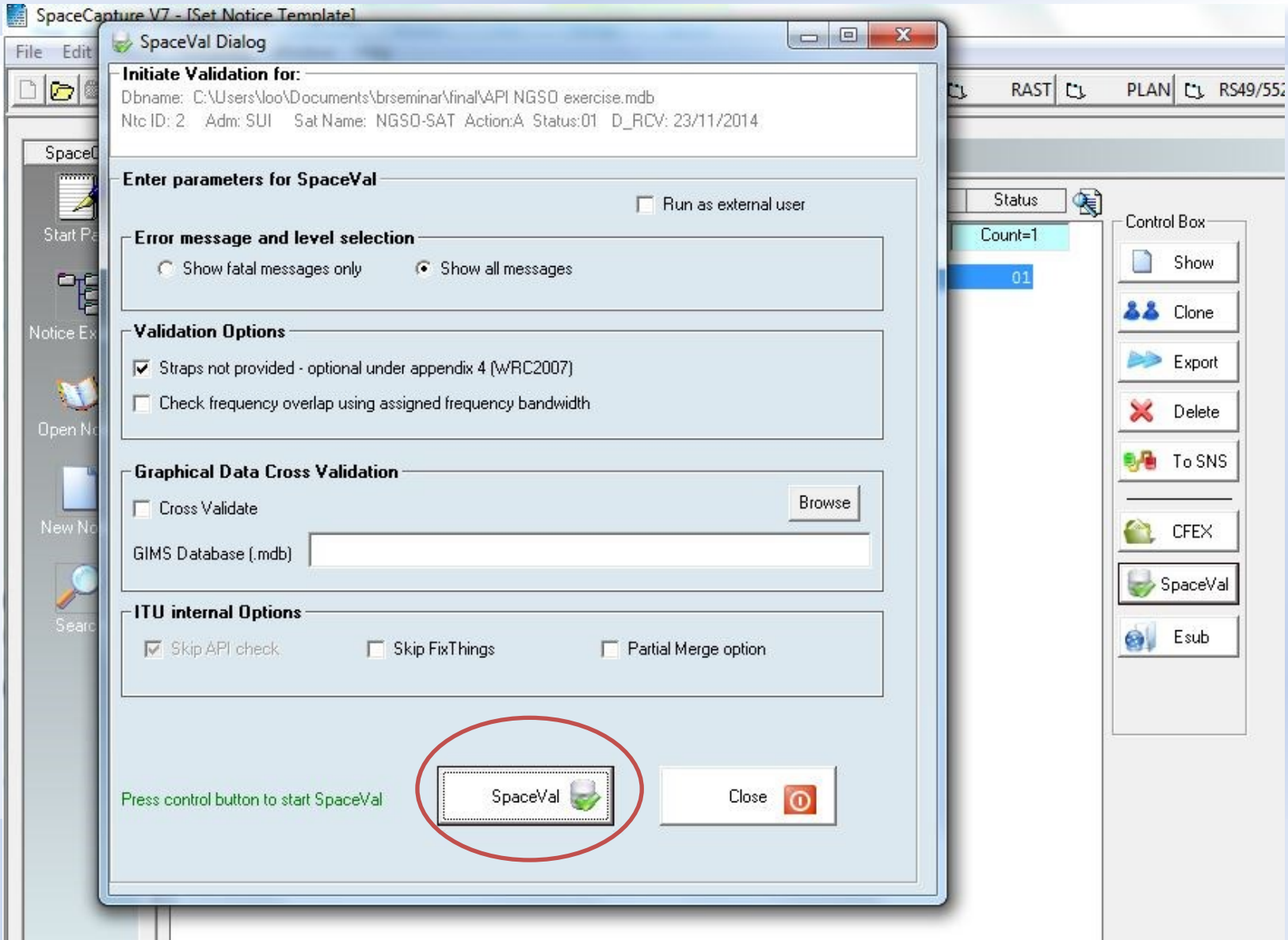
for NGSO not subject to coordination



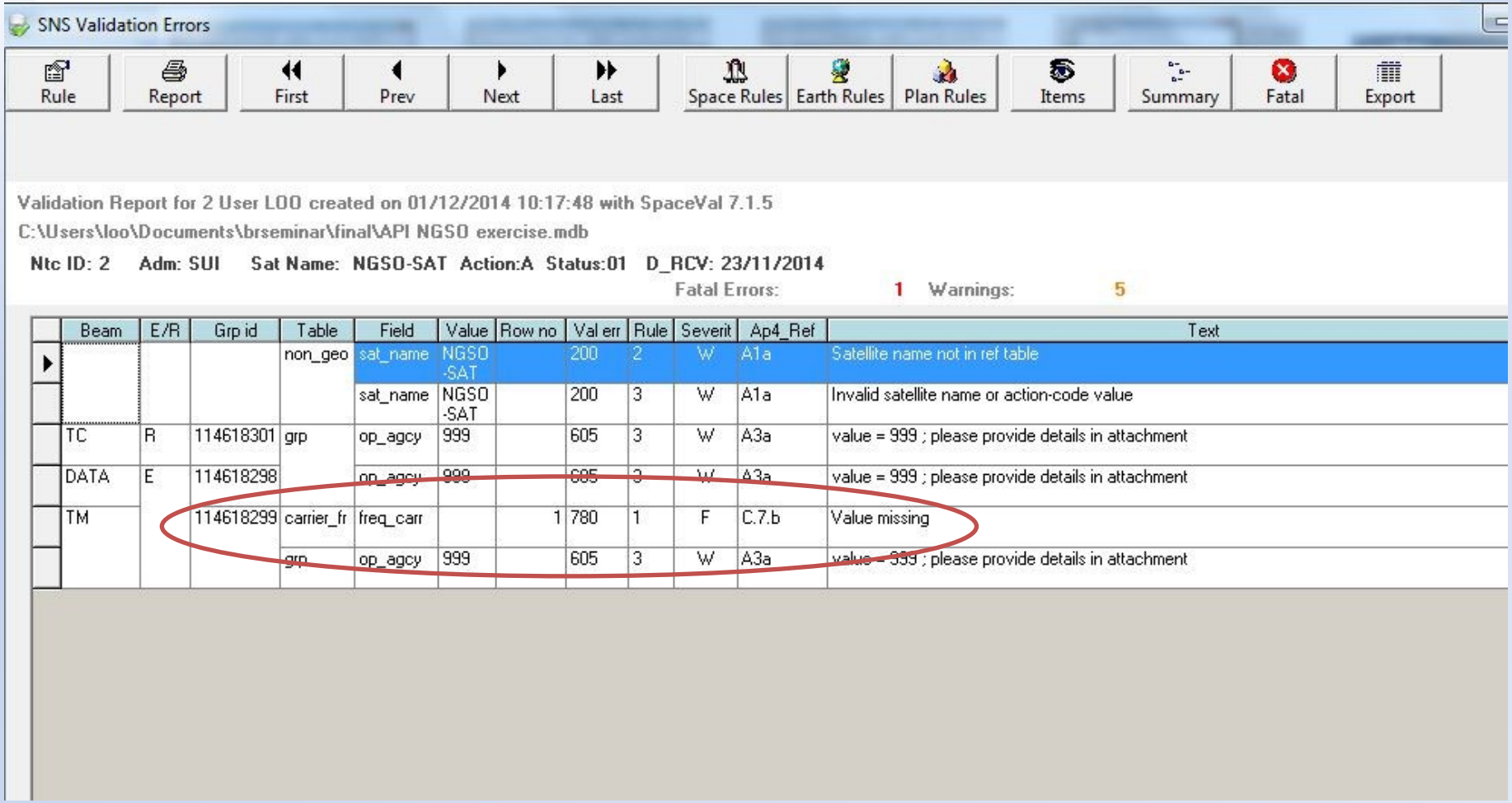
Launch Spaceval



Spaceval – start validation



Validation report

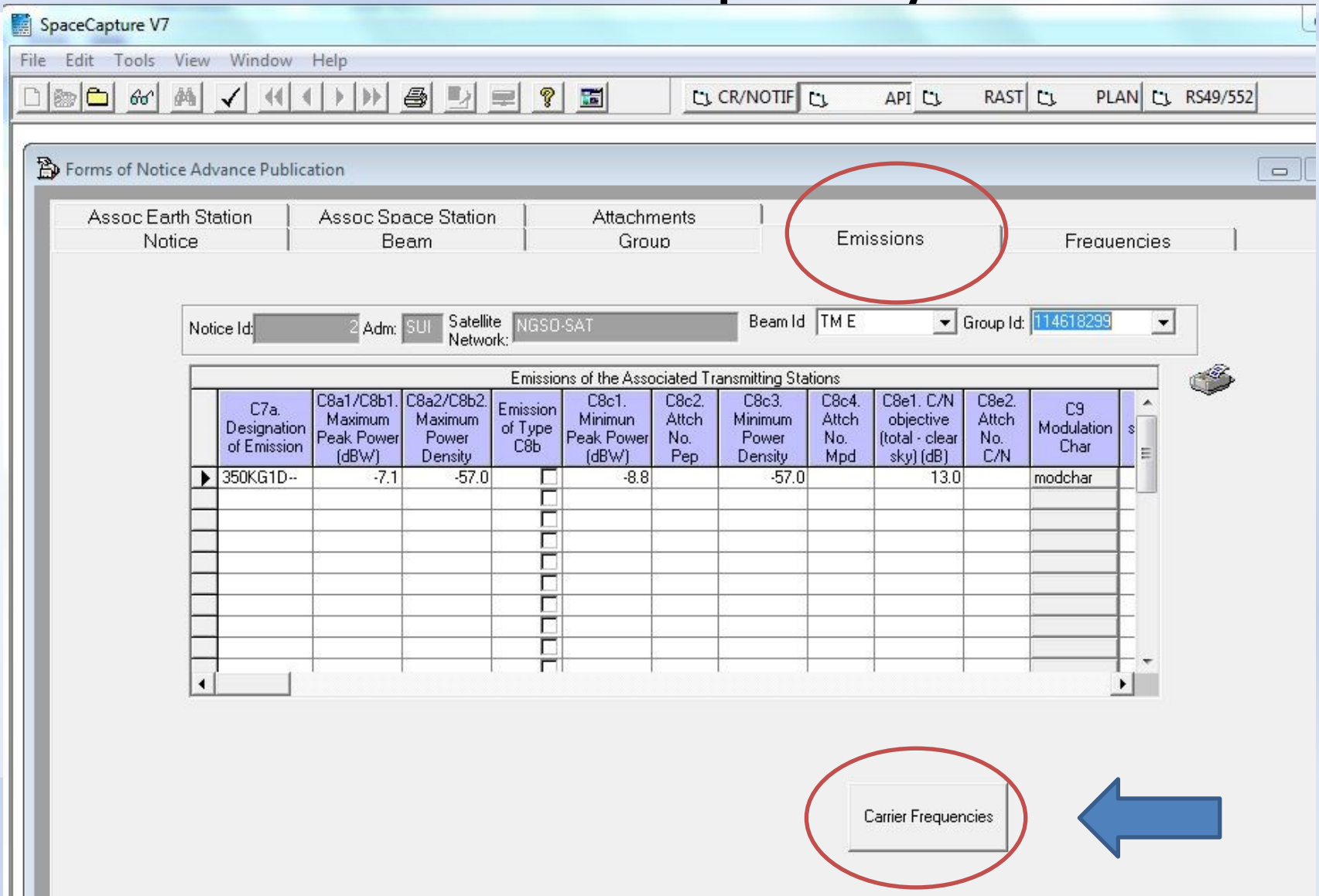


Beam	E/R	Grp id	Table	Field	Value	Row no	Val err	Rule	Severit	Ap4_Ref	Text
			non_geo	sat_name	NGSO -SAT		200	2	W	A1a	Satellite name not in ref table
				sat_name	NGSO -SAT		200	3	W	A1a	Invalid satellite name or action-code value
TC	R	114618301	grp	op_agcy	999		605	3	W	A3a	value = 999 ; please provide details in attachment
DATA	E	114618298		op_agcy	999		605	3	W	A3a	value = 999 ; please provide details in attachment
TM		114618299	carrier_fr	freq_carr		1	780	1	F	C.7.b	Value missing
			grp	op_agcy	999		605	3	W	A3a	value = 999 ; please provide details in attachment

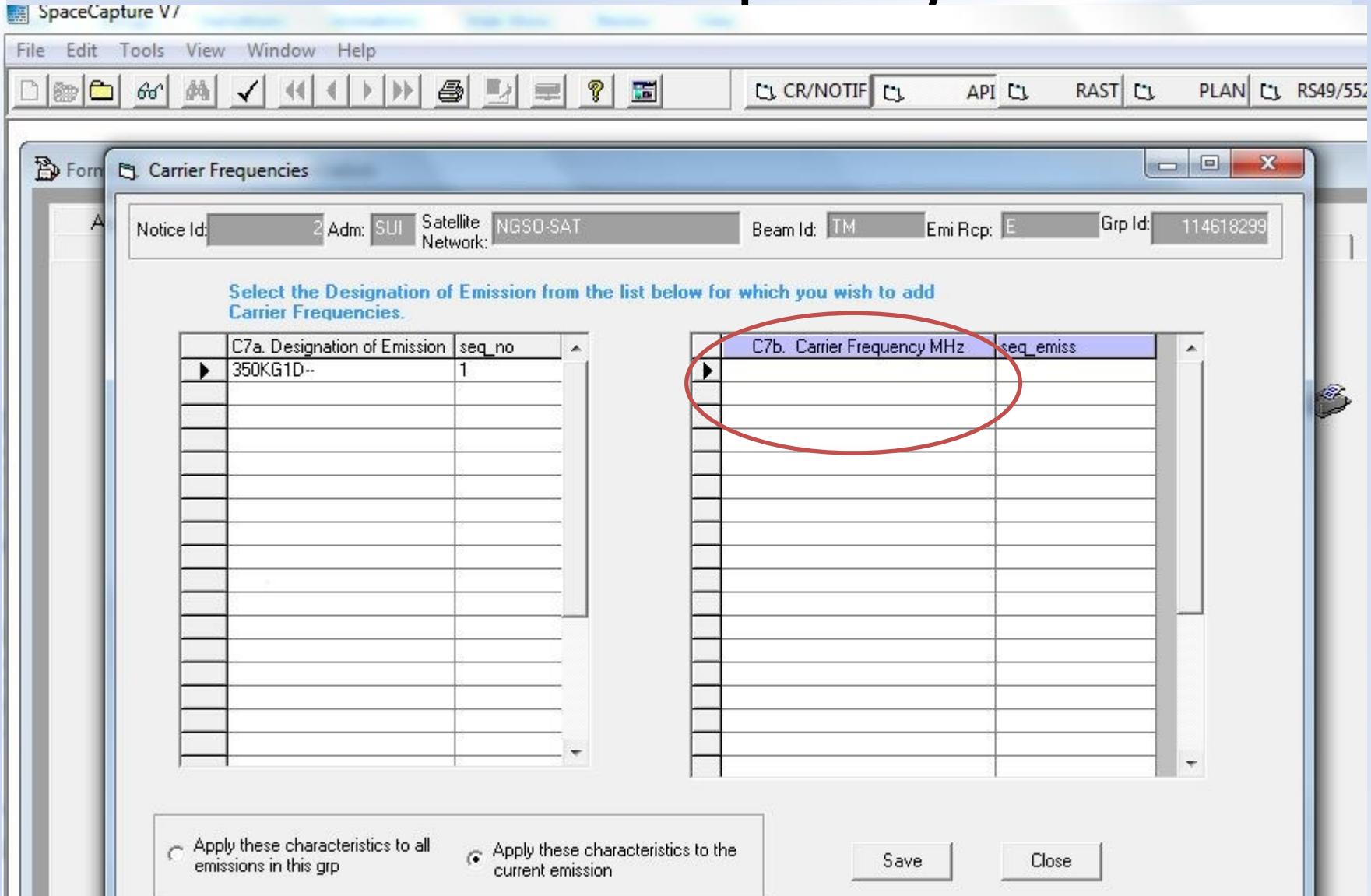
Validation correction

- To correct the fatal error of missing carrier frequency

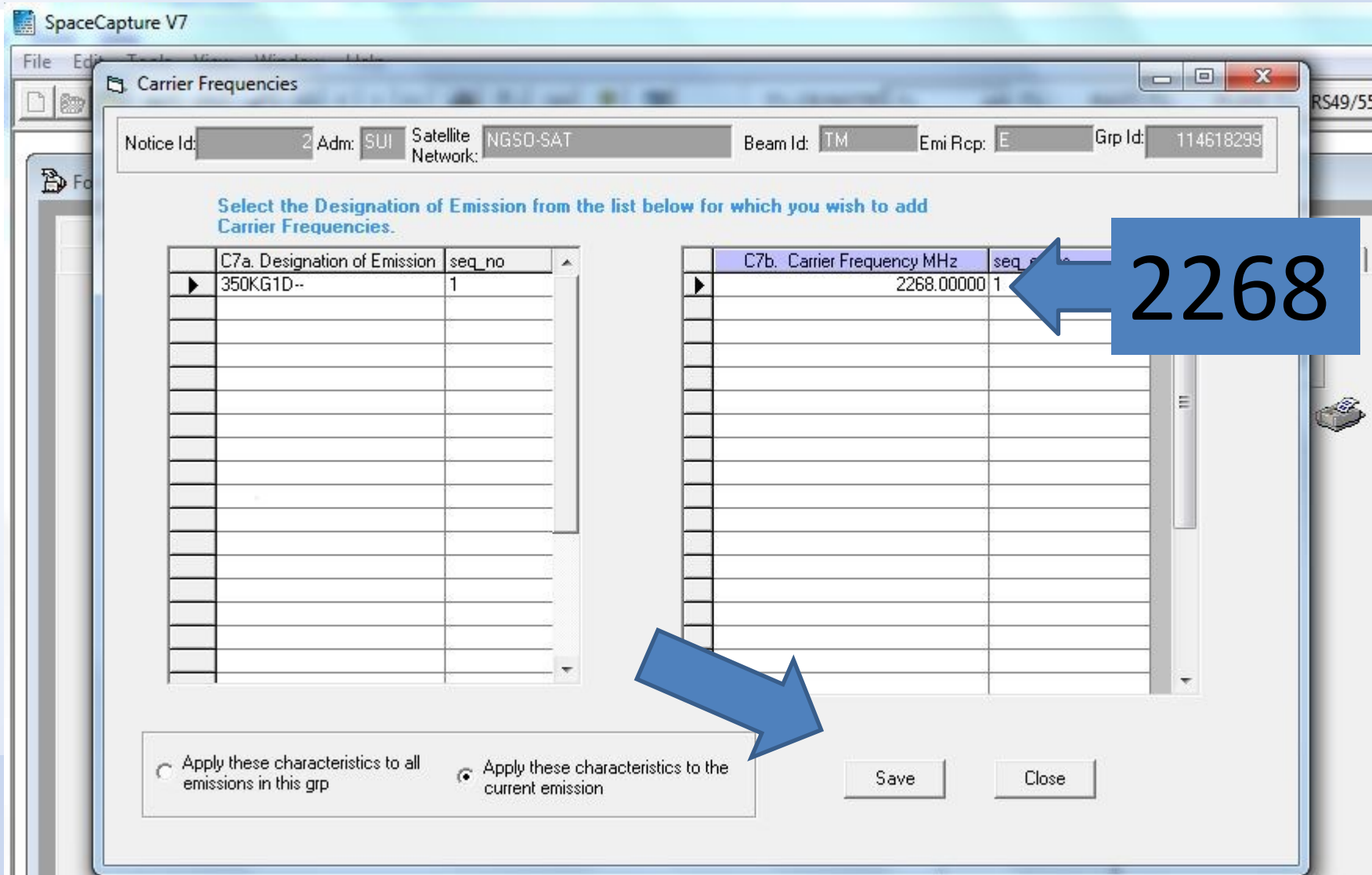
Validation correction – carrier frequency -1



Validation correction – carrier frequency -2



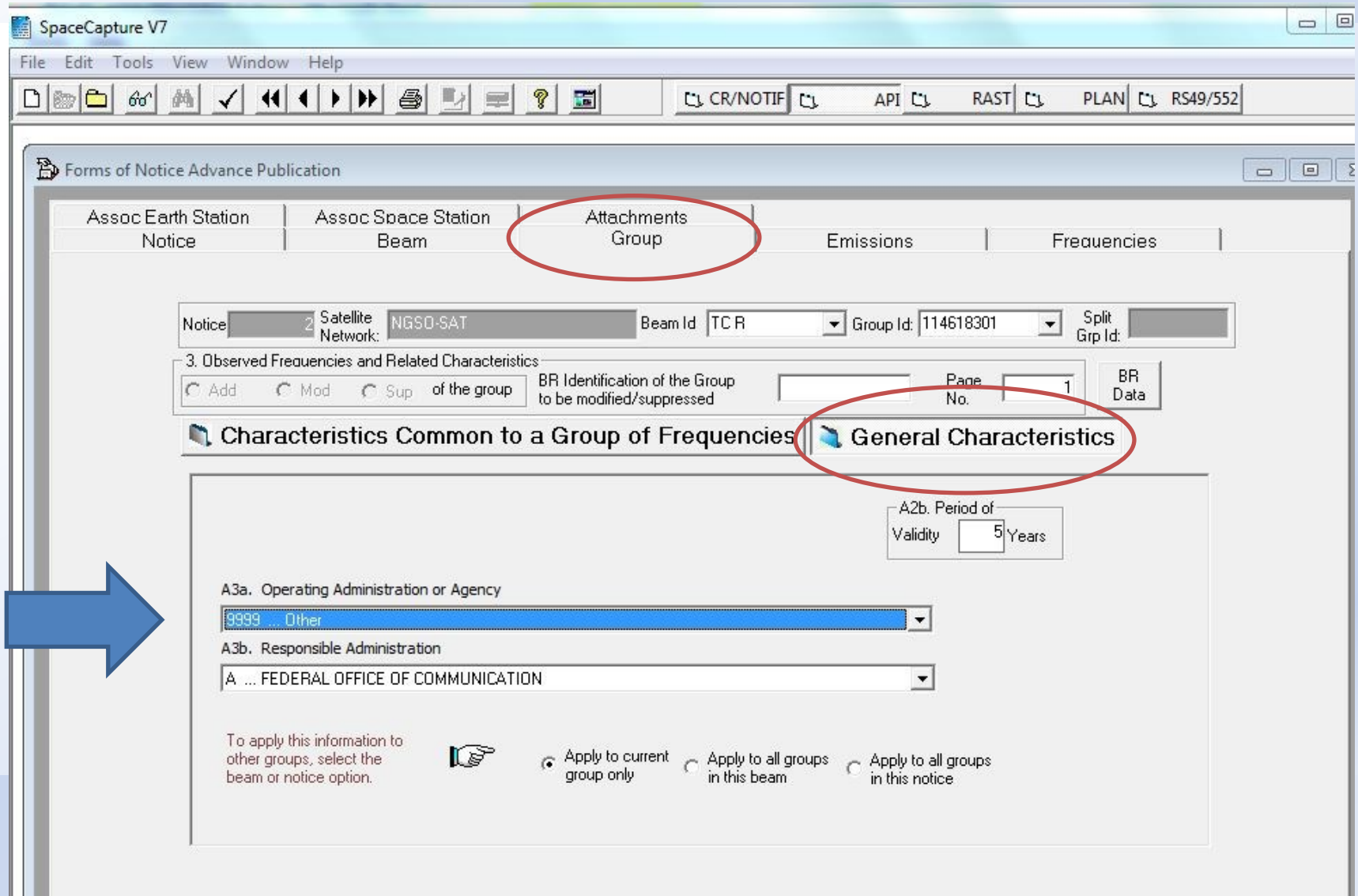
Validation correction – carrier frequency -3



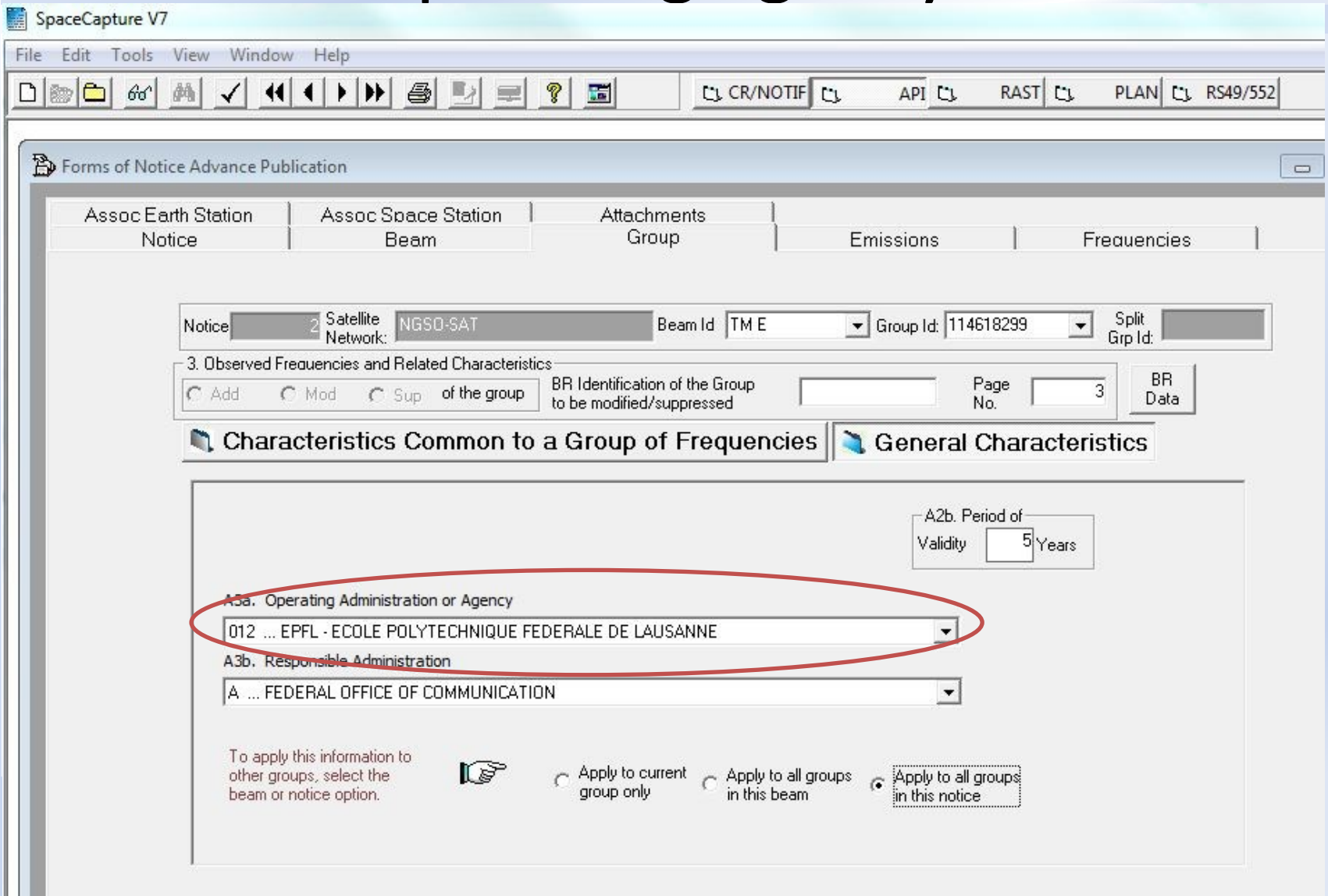
Validation correction

- For the warning about operating agency being 9999
- If it is a new operating agency, please request BR to allocate a new operating agency number by providing the name, address and contact number in a fax.
- If it is an existing operating agency that is already recorded in the Preface, you can insert the operating agency number as shown in the following steps.

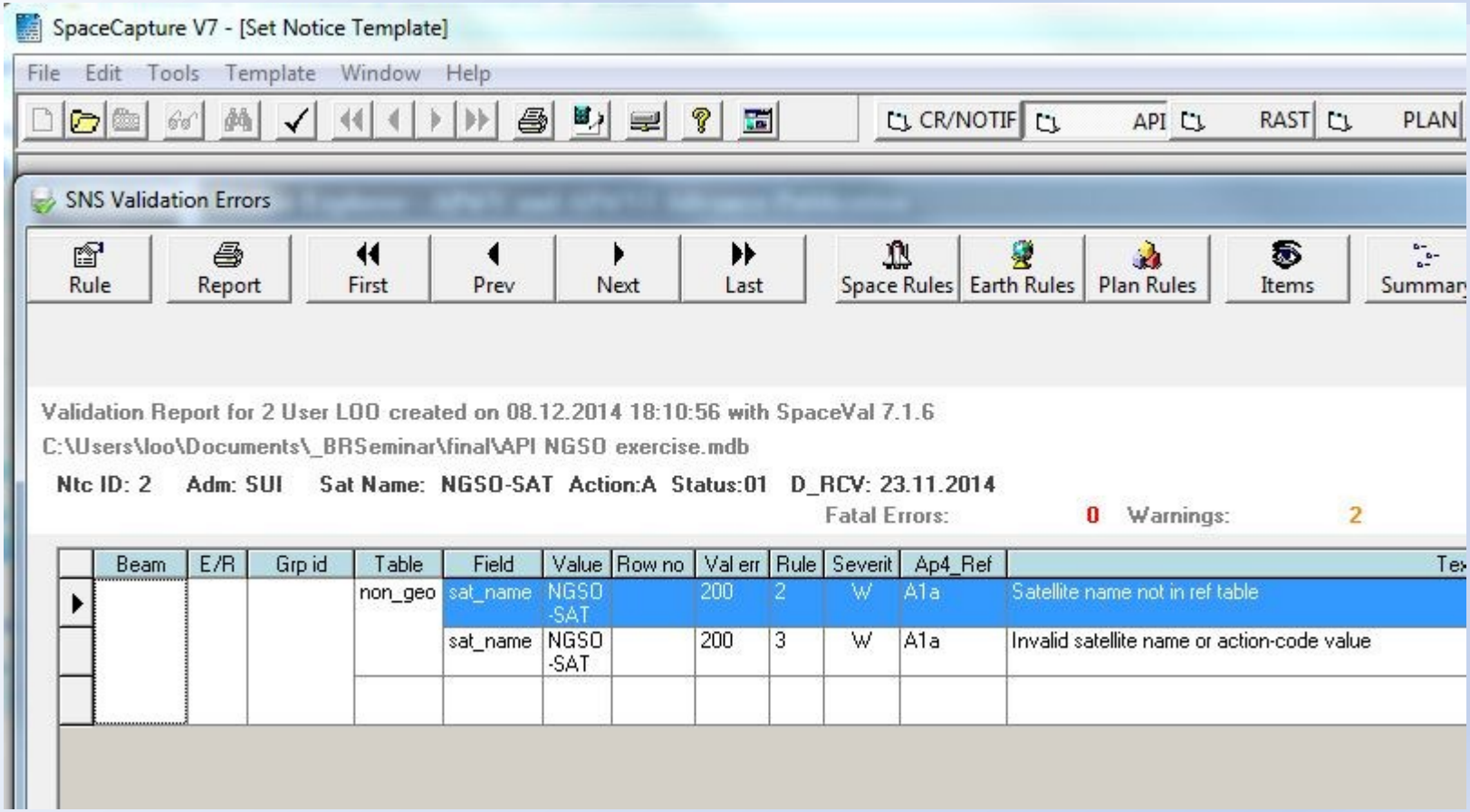
Validation correction – operating agency -1



Validation correction – operating agency -2



Validation report - final



Submission to Bureau

- Create a zip file e.g. NGSOSAT.zip containing
  - NGSOSAT.MDB - Change the file extension from ".mdb" to ".itu"
  - Any other attachments or notes in Word or PDF format
- Send email with attachment NGSOSAT.zip to BRMAIL@ITU.INT
- Send confirmation telefax to BR at +41 22 7305785

SpaceWISC workshop agenda

- Background
- API Capture/Validation/Submission exercise
- Demonstration of operator/administration workflow
- Advanced features
  - Upload of notices from mdb captured using Spacecap
  - Capture of modification
  - Suppression and Withdrawal Request

Questions?

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BR/SSD/SPR