30TH WORLD RADIOCOMMUNICATION SEMINAR

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Geneva, Switzerland

What's New in SpaceCap v9.1

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Informatics, Administration and Publications Department

www.itu.int/go/wrs-22

#ITUWRS

- What is SpaceCap?
- SpaceCap Features
- Editing in SpaceCap
- What's New in v9.1
- Future of SpaceCap

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What is SpaceCap?

Main software for capture of space-services related RR Appendix 4 data items

Allows for capture of most data items listed in Preface to BR IFIC (Space)

Other space-services related data capture tools

- Graphical data capture (gain contours, service area) ⇨ GIMS
- Comments on IFIC ⇨ SpaceCom
- Resolution 35 ⇨ Capture directly in e-Submission or upload XML file
- Appendix 7 analysis input parameters ⇨ Simpler to use Ap7Capture

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SpaceCap Features

Data Capture

- Wizard for First Notification
- Wizard for Resubmission
- Wizard for Coordination Agreements Capture
- Wizard for Resolution 49/552

Validate Data ⇨BRSIS-Validation

Cost Recovery Fee Estimation

Browse SNS-format Data

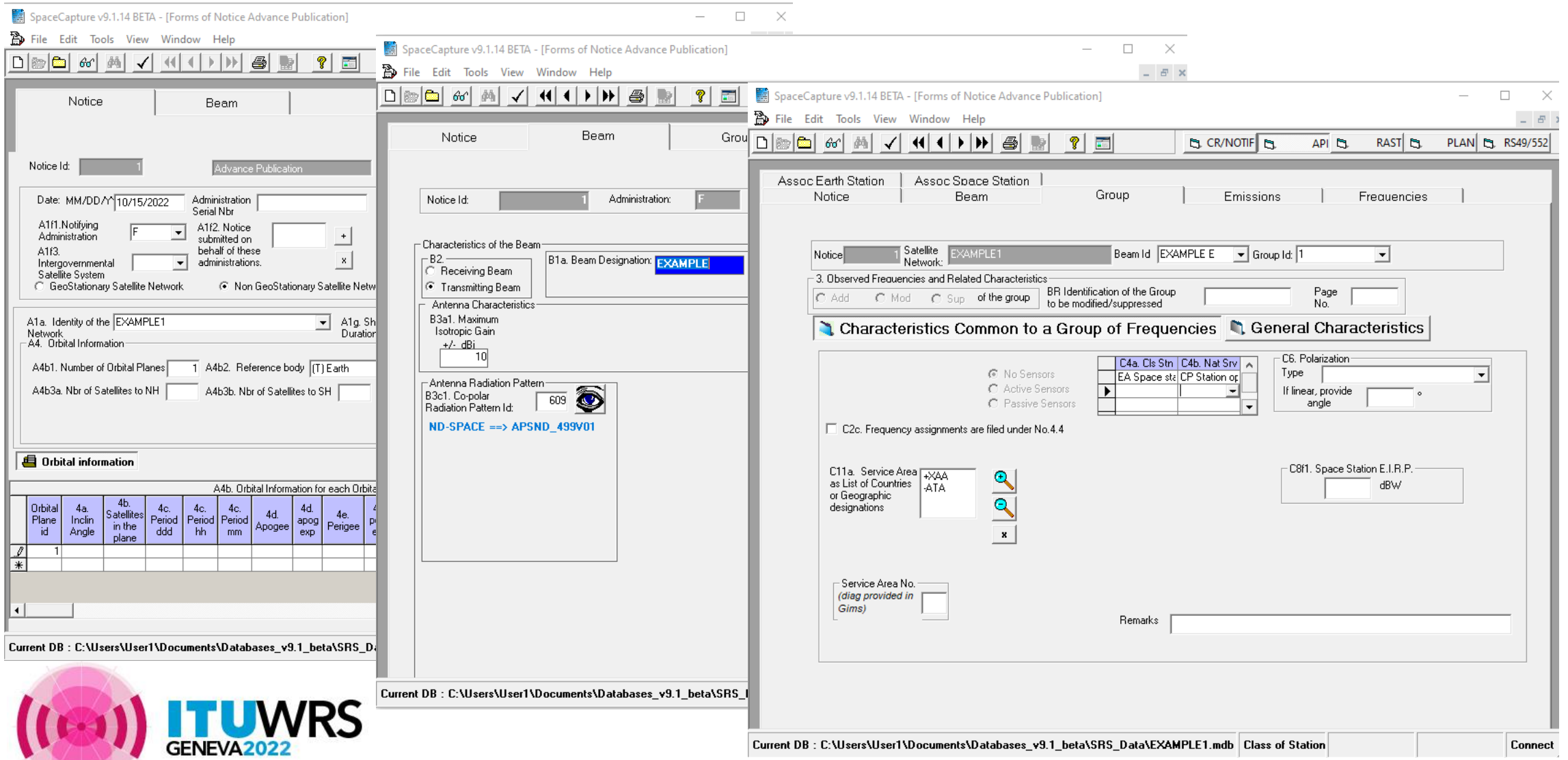
Print Data ⇨ SpacePub

Export Data to SNS-format MDB File

Database Utility Features

- Link MDB Files (compatible only with SRS IFIC MDB files)
- Repair/Compact MDB File (convenience if PC without MS Access)

SpaceCap Features – Data Capture



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SpaceCap Features - Wizards

Guidelines to assist administrations in capturing coordination agreements, and in creating space station notification notices and their resubmissions https://www.itu.int/en/ITU-R/space/support/Pages/GuideforNotificationwithSpacecap.aspx

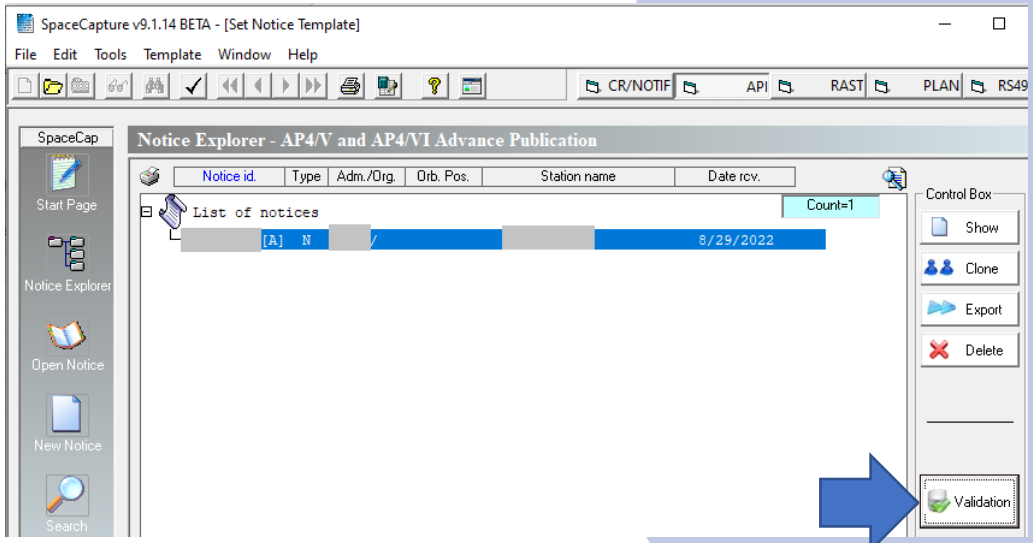
- Wizard for First Notification
- Wizard for Resubmission
- Wizard for Coordination Agreements Capture

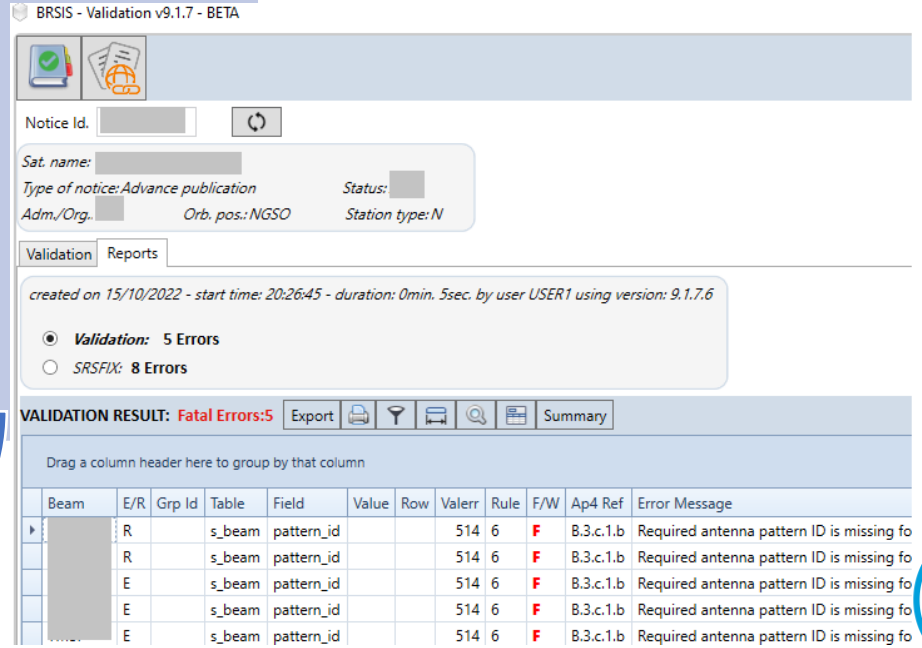
Wizard for Resolution 49/552 https://www.itu.int/en/ITU-R/software/Documents/spacecap/new_rs49_552_help.pdf

SpaceCap Features – Validate Data

SpaceCap

BRSIS-Validation





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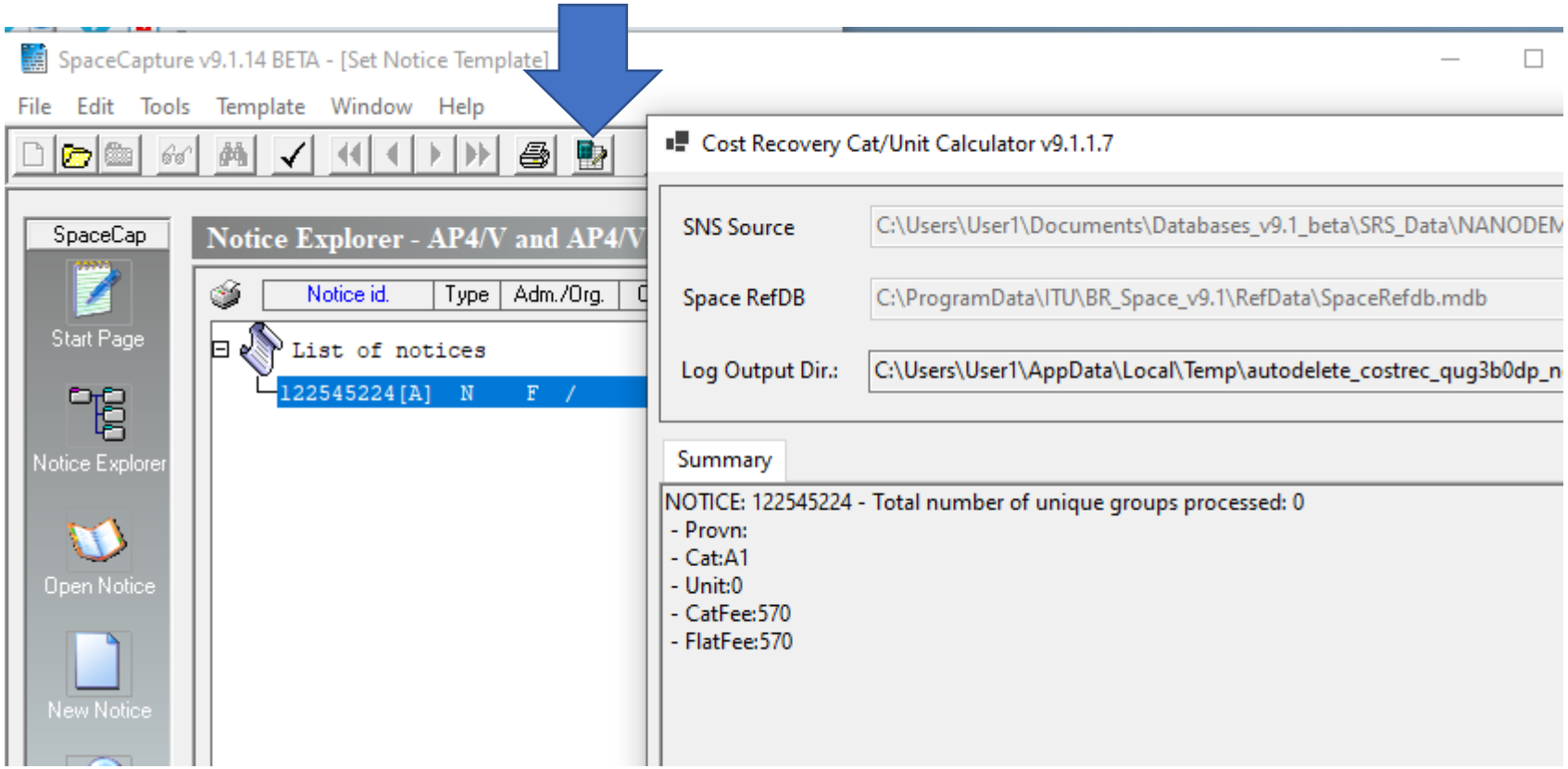
SpaceCap Features – Cost Recovery



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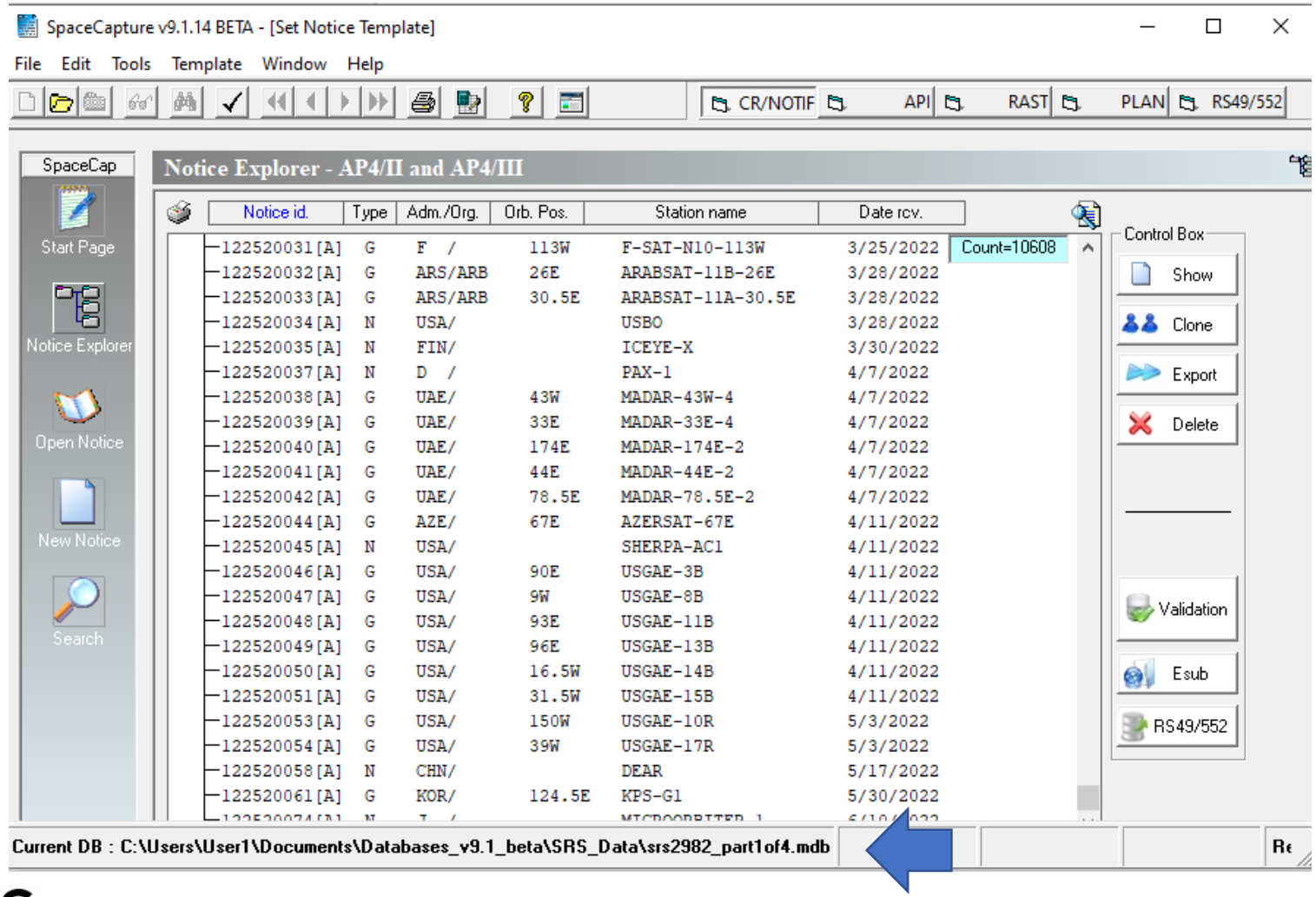
SpaceCap Features – Browse



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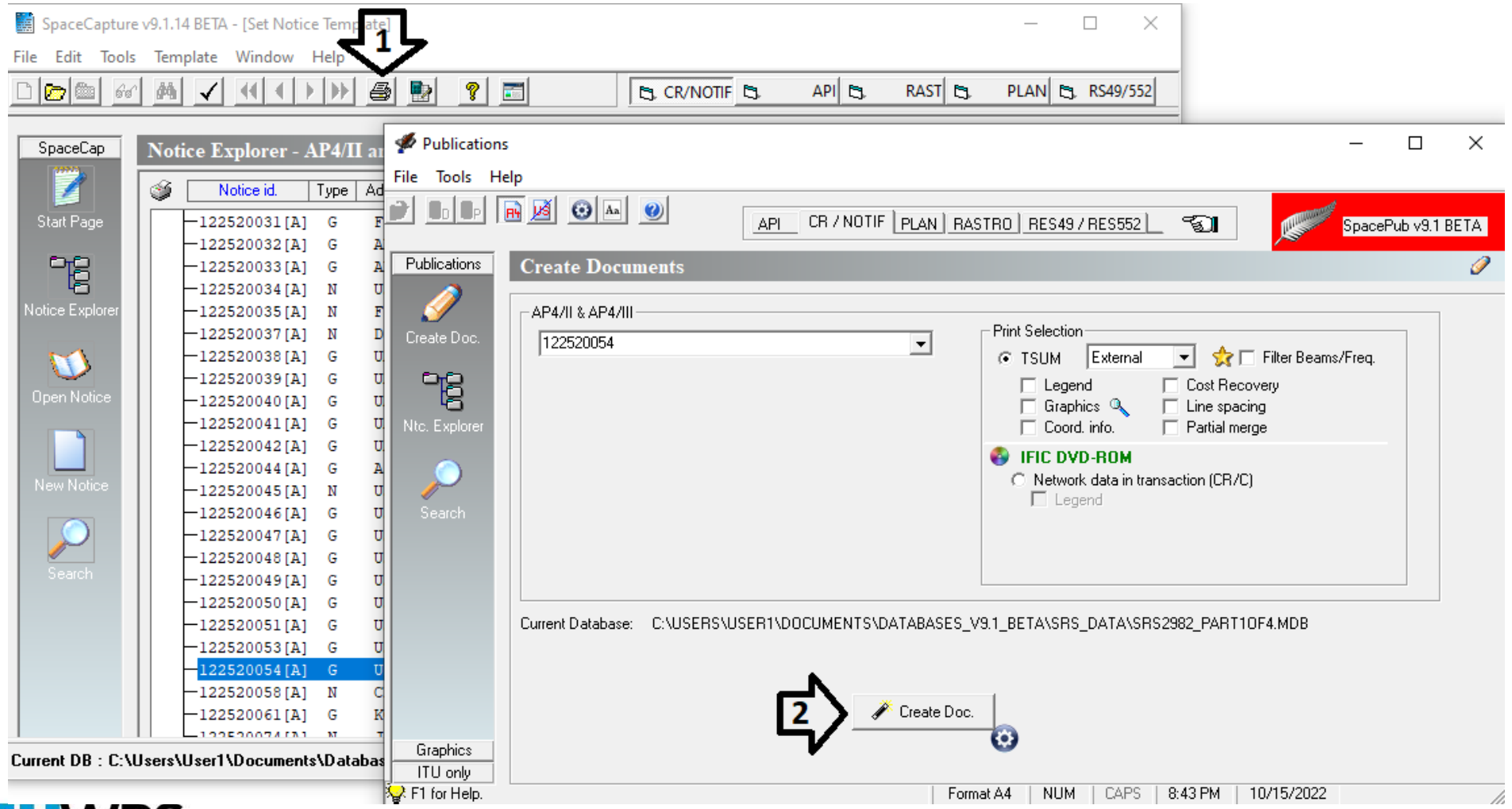
SpaceCap Features – Print



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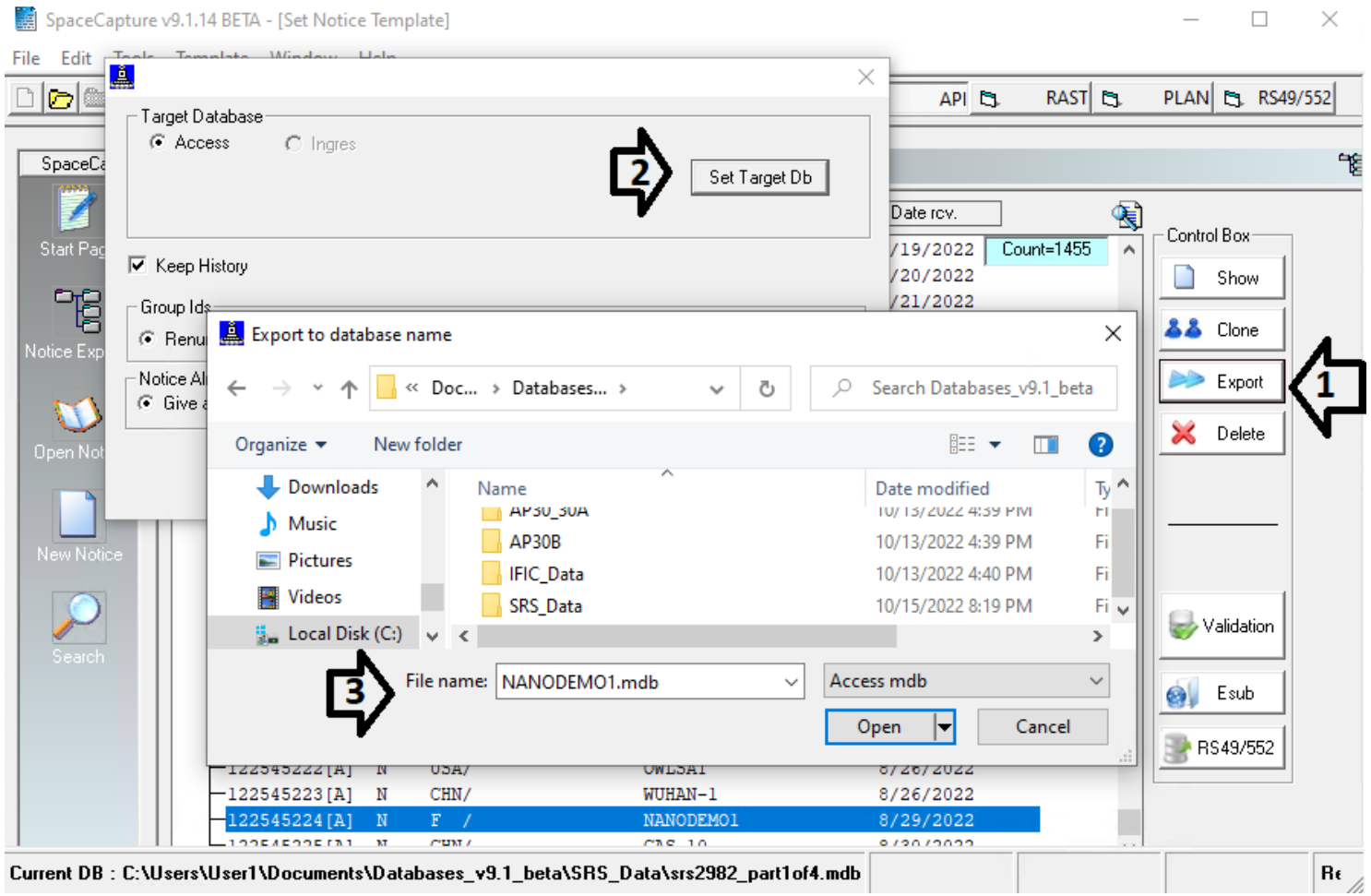
SpaceCap Features – Export to MDB



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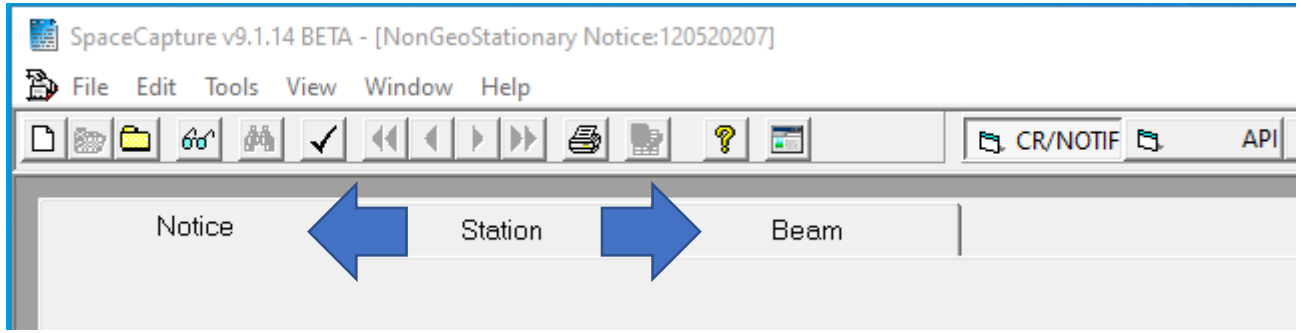
Editing in SpaceCap

After editing a value in a SpaceCap form, it is recommended to click somewhere else in the form, before clicking on a tab or menu item, otherwise the change may be lost.

Saving changes in SpaceCap is performed indirectly by moving to another tab



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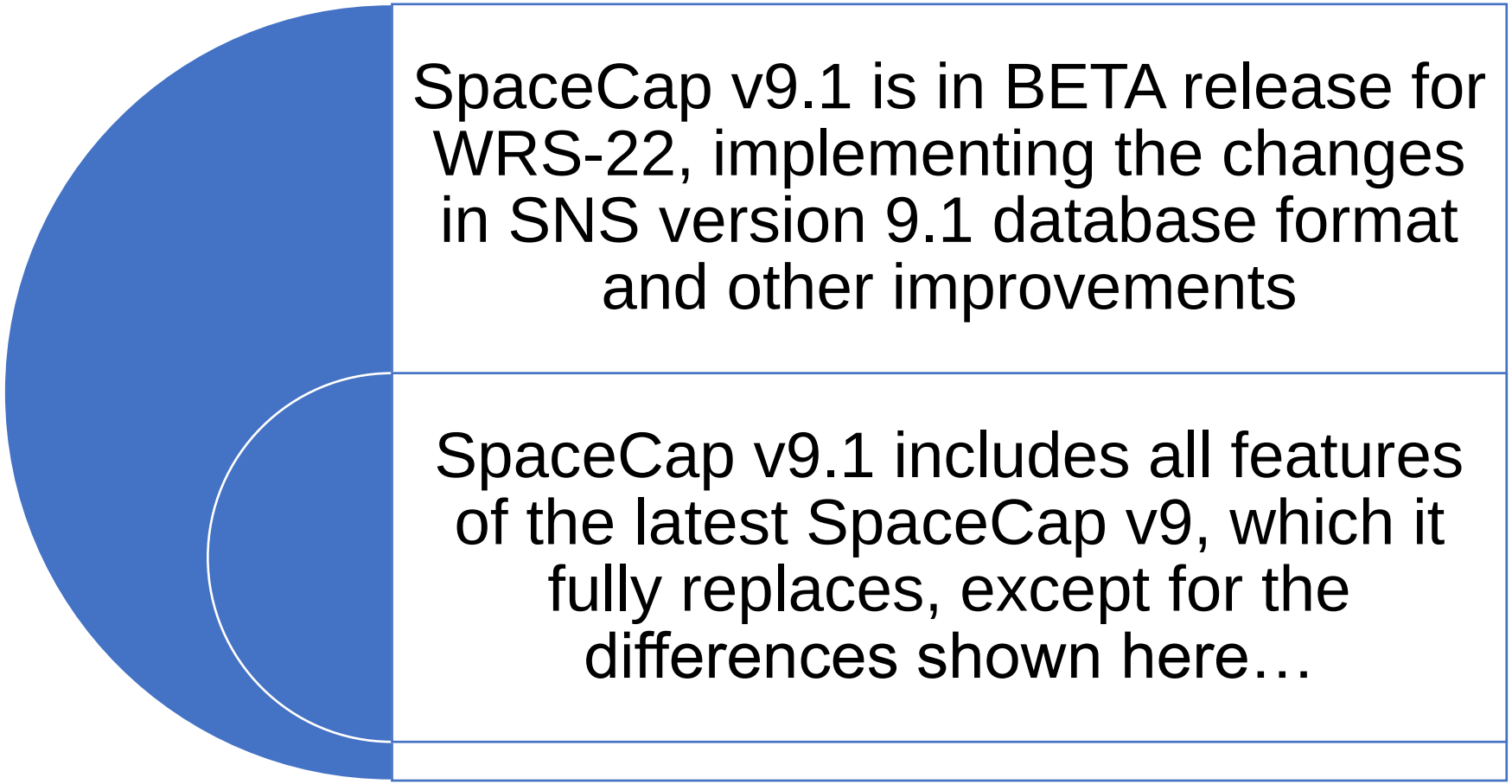
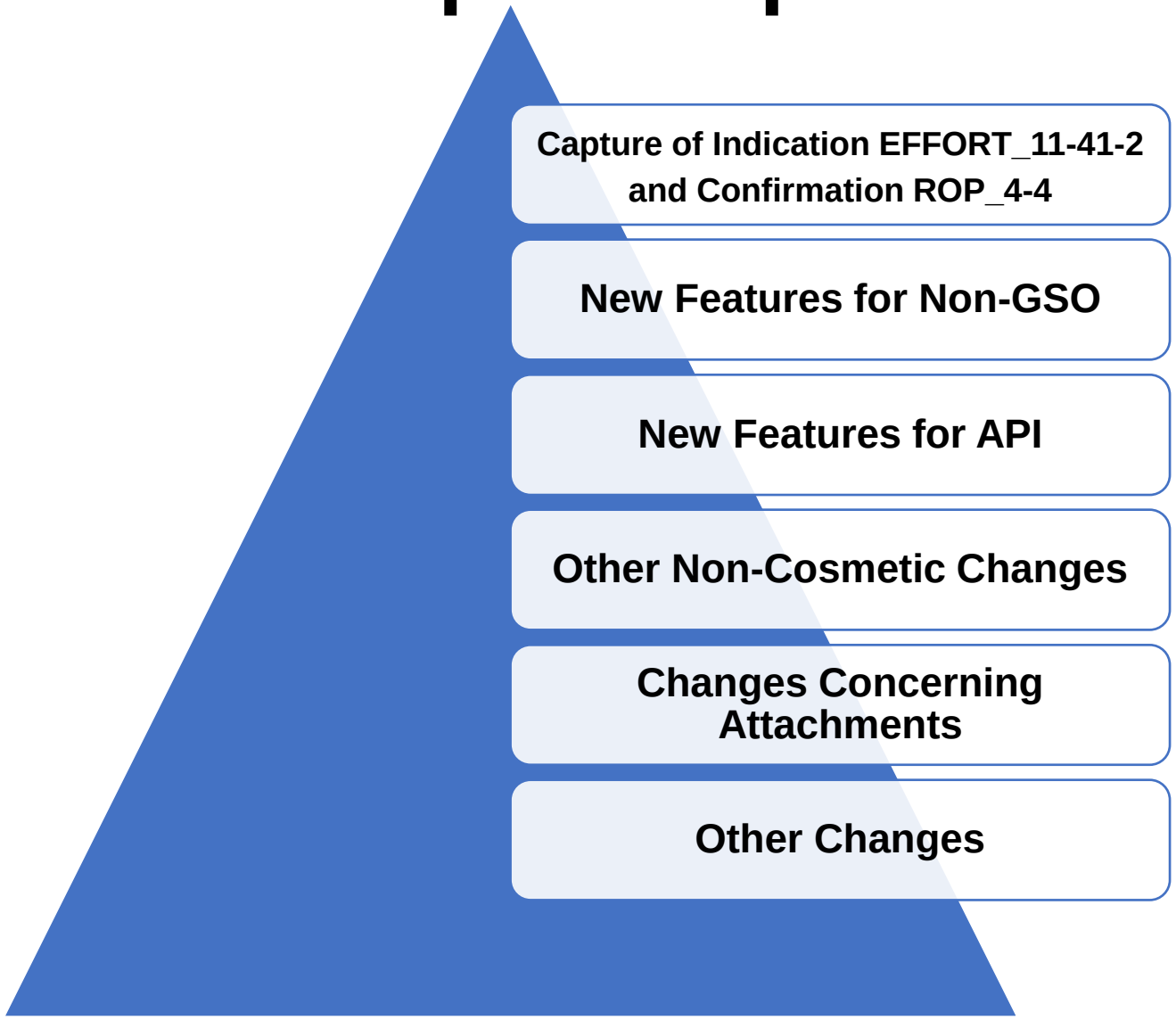
What is new in SpaceCap v9.1?

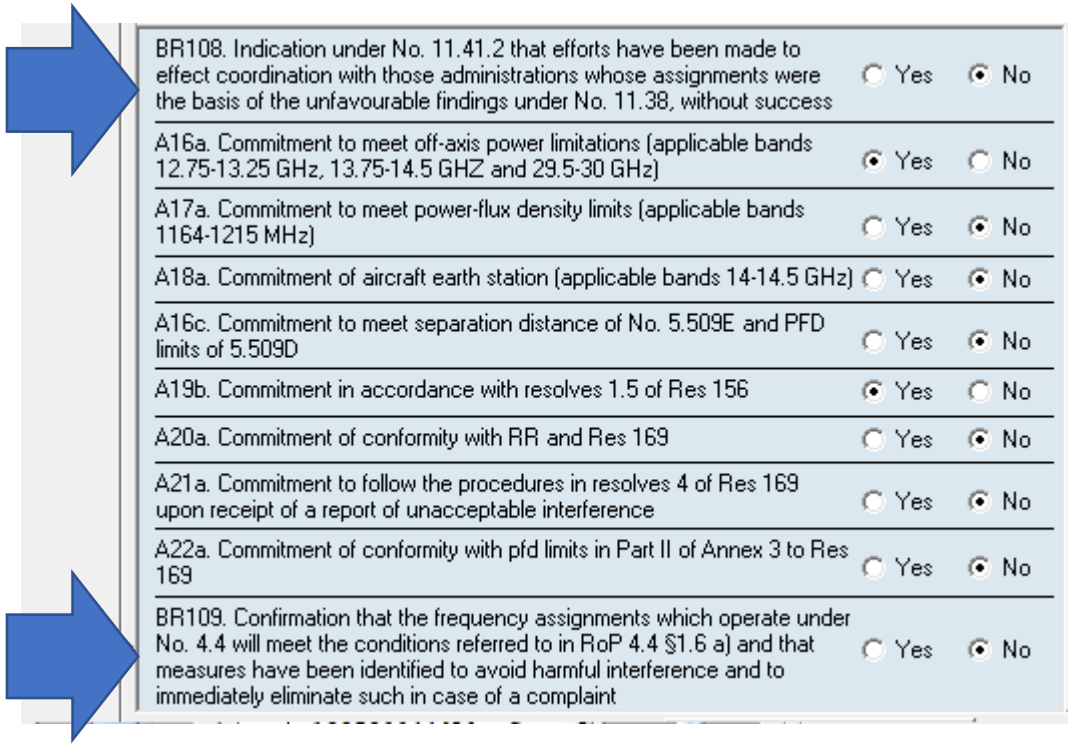


What is new in SpaceCap v9.1?



Capture of Indication EFFORT_11-41-2 and Confirmation ROP_4-4

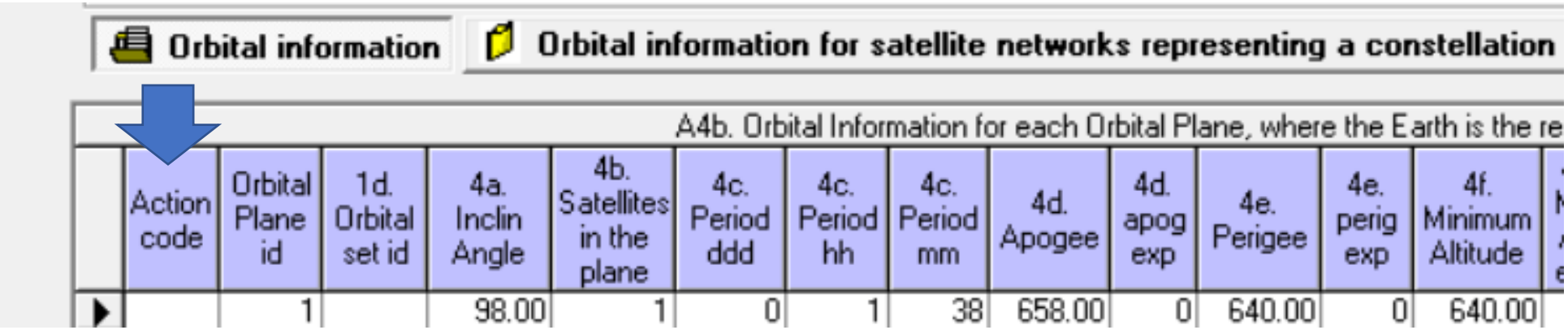
(Please refer to Note 7 in the Preface)



BR108. Indication under No. 11.41.2 that efforts have been made to effect coordination with those administrations whose assignments were the basis of the unfavourable findings under No. 11.38, without success	○ Yes	◉ No
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
A17a. Commitment to meet power-flux density limits (applicable bands 1164-1215 MHz)	○ Yes	◉ No
A18a. Commitment of aircraft earth station (applicable bands 14-14.5 GHz)	○ Yes	◉ No
A16c. Commitment to meet separation distance of No. 5.509E and PFD limits of 5.509D	○ Yes	◉ No
A19b. Commitment in accordance with resolves 1.5 of Res 156	◉ Yes	○ No
A20a. Commitment of conformity with RR and Res 169	○ Yes	◉ No
A21a. Commitment to follow the procedures in resolves 4 of Res 169 upon receipt of a report of unacceptable interference	○ Yes	◉ No
A22a. Commitment of conformity with pfd limits in Part II of Annex 3 to Res 169	○ Yes	◉ No
BR109. Confirmation that the frequency assignments which operate under No. 4.4 will meet the conditions referred to in RoP 4.4 §1.6 a) and that measures have been identified to avoid harmful interference and to immediately eliminate such in case of a complaint	○ Yes	◉ No

New Features for Non-GSO (1/9)

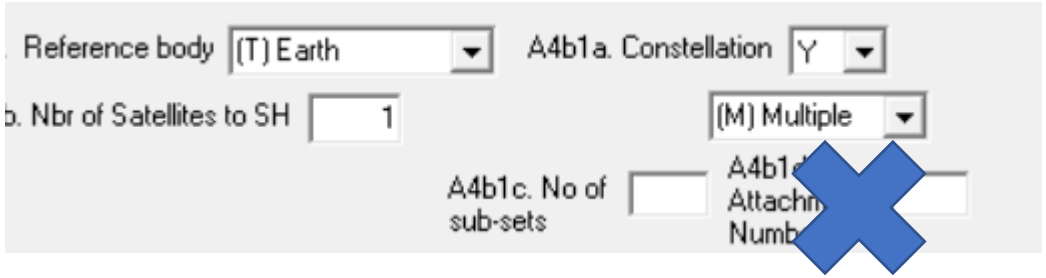
• Capture of action code (Add/Modify/Suppress) for orbits (database column *orbit.act_code*)

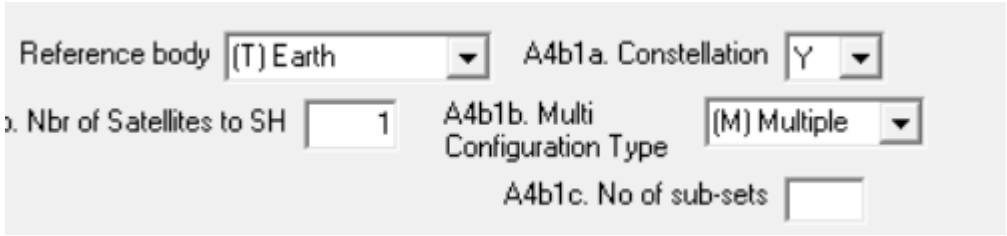


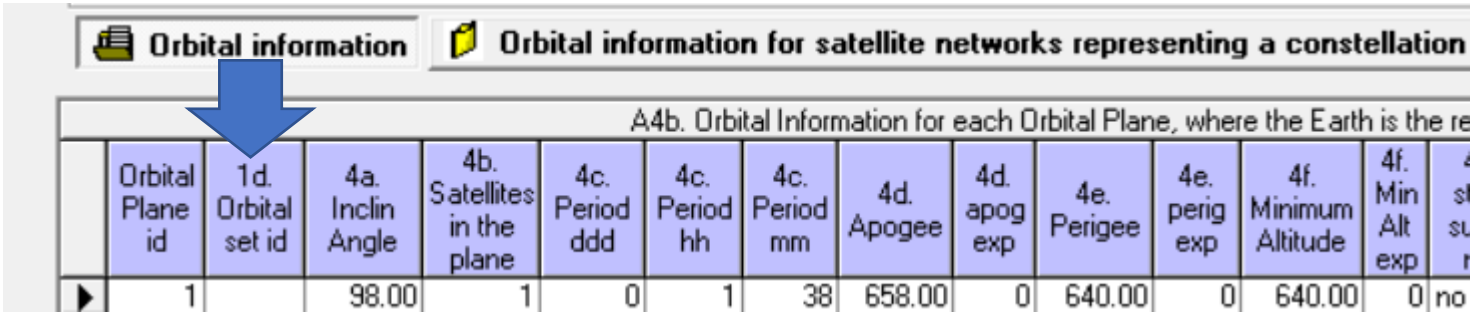
Action code	Orbital Plane id	1d. Orbital set id	4a. Inclin Angle	4b. Satellites in the plane	4c. Period ddd	4c. Period hh	4c. Period mm	4d. Apogee	4d. apog exp	4e. Perigee	4e. perig exp	4f. Minimum Altitude
	1		98.00	1	0	1	38	658.00	0	640.00	0	640.00

New Features for Non-GSO (2/9)

Capture of orbit configuration identifier (*orbit.orb_set_id*) for multiple configurations (replaces the *non_geo.attch_multi_config* data item)

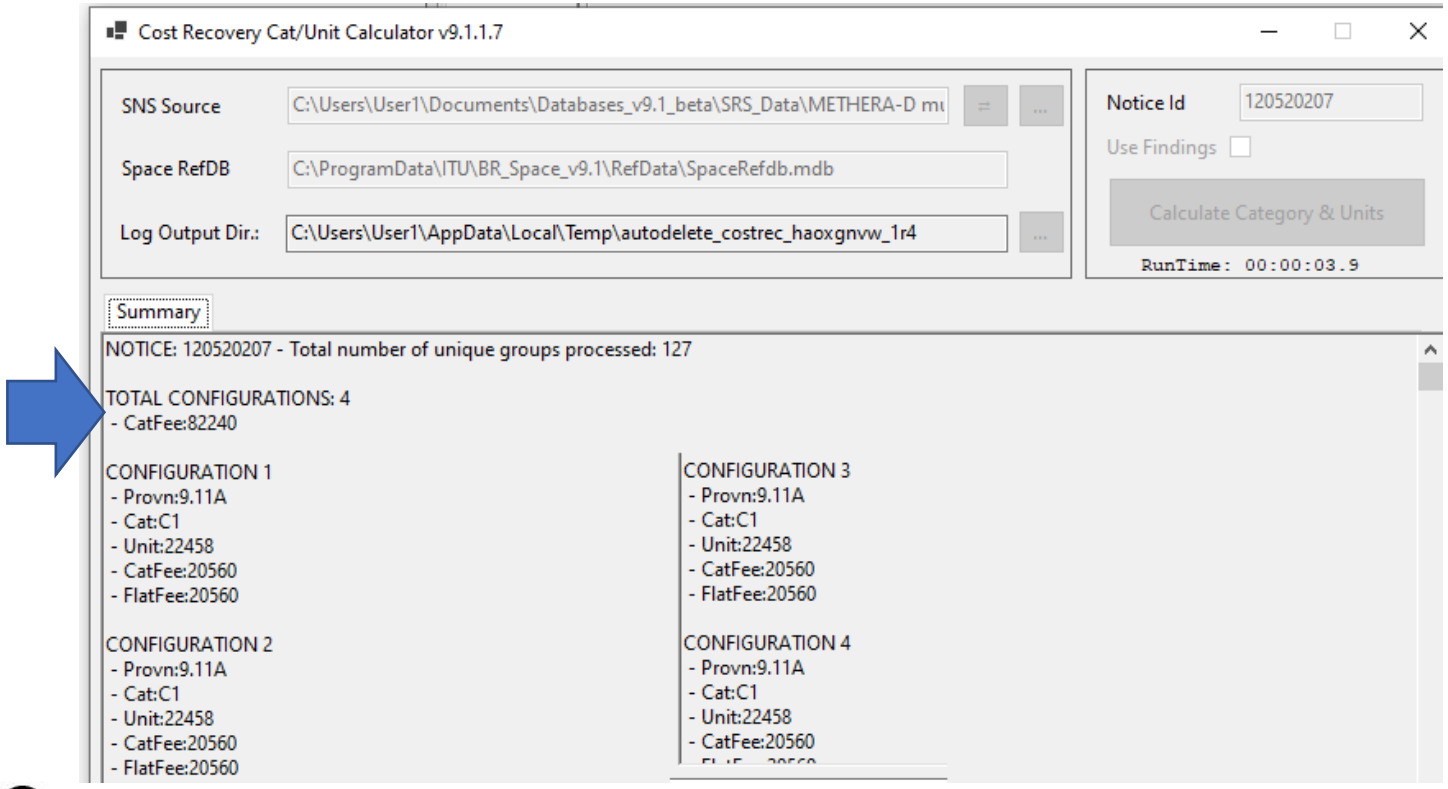






New Features for Non-GSO (3/9)

Council Decision 482 for multiple configurations implemented in Cost Recovery Calculation tool

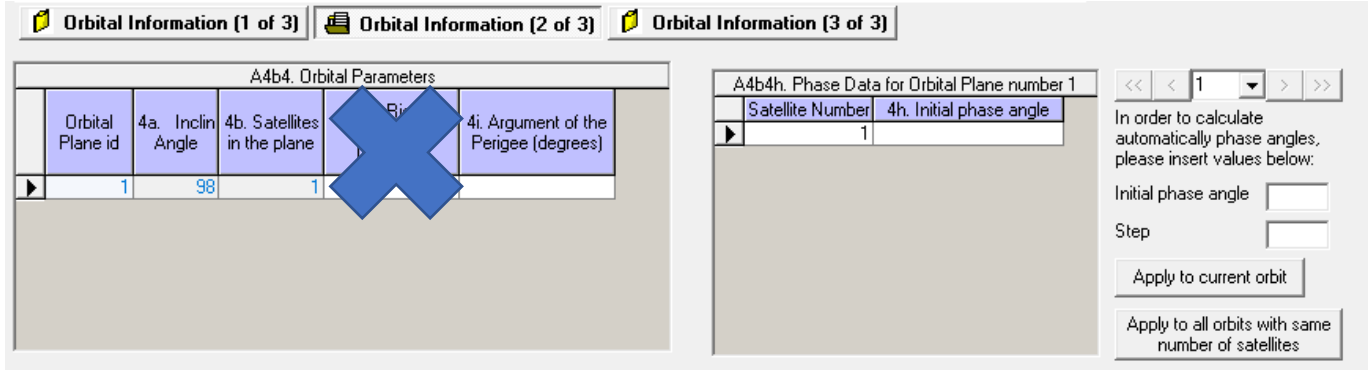


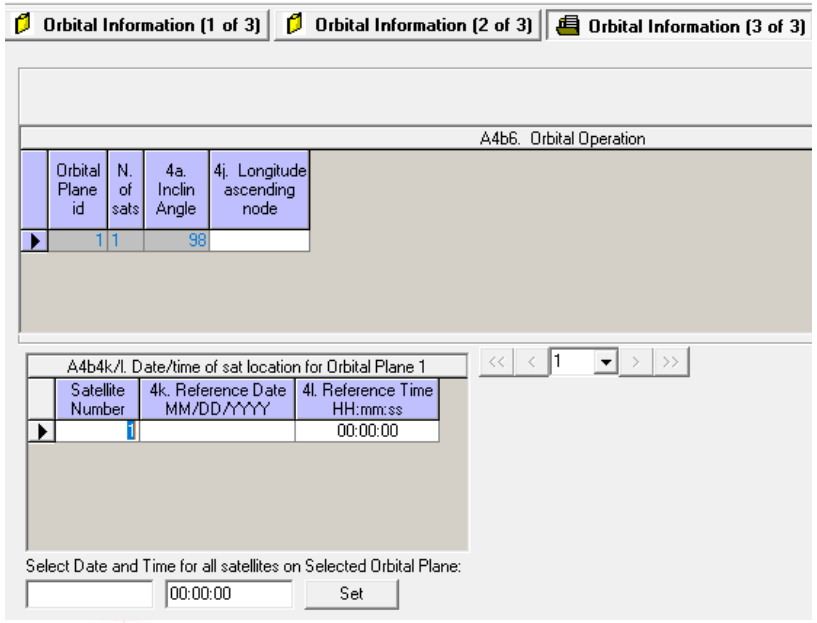
New Features for Non-GSO (4/9)

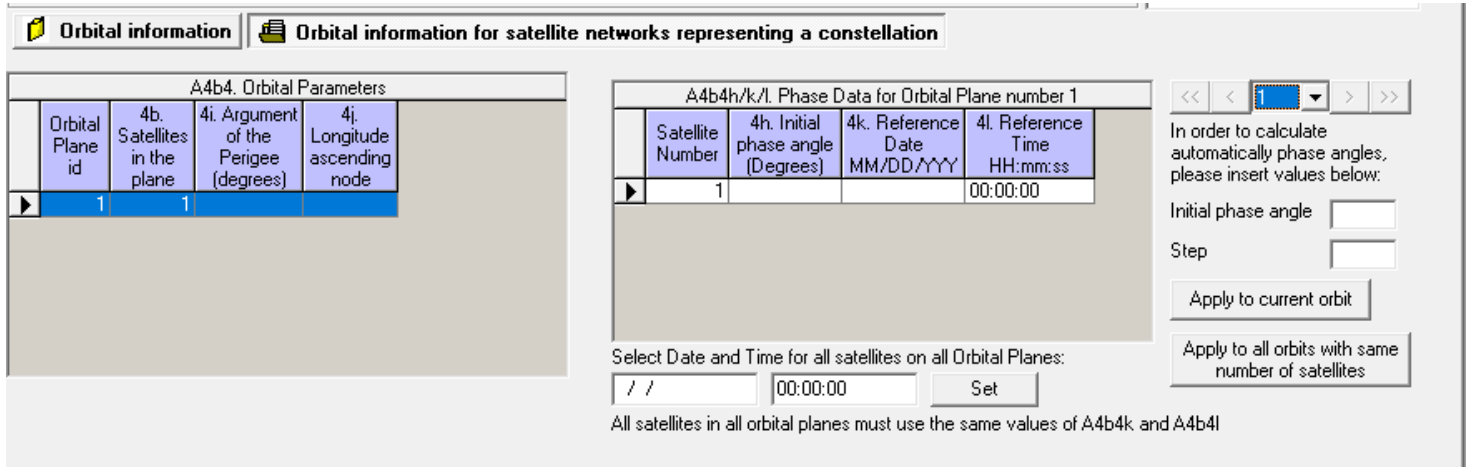
Support for indicating geographic area codes to be excluded from the service area - for API only (service area capture UI elements are not shown if the beam has sensors)

New Features for Non-GSO (5/9)

Regrouped orbital information capture for API



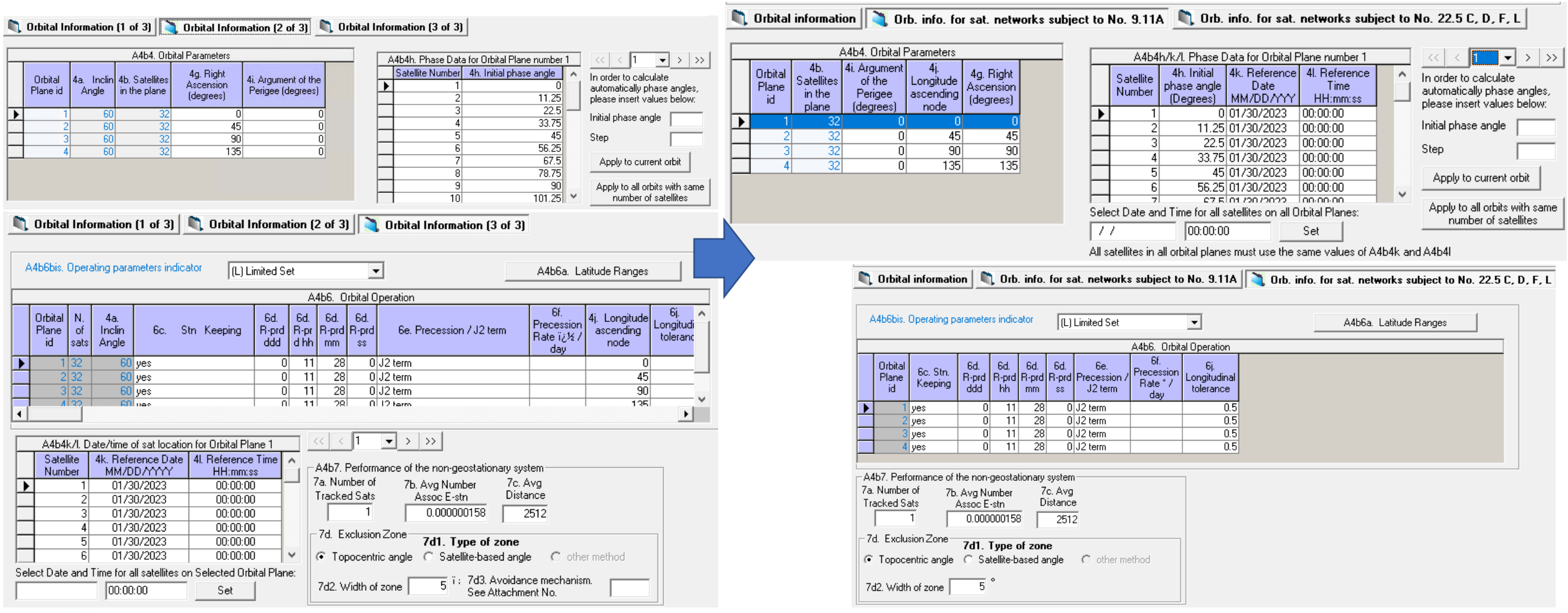




Note: A.4.b.4.g was unnecessarily shown for API in SpaceCap v9

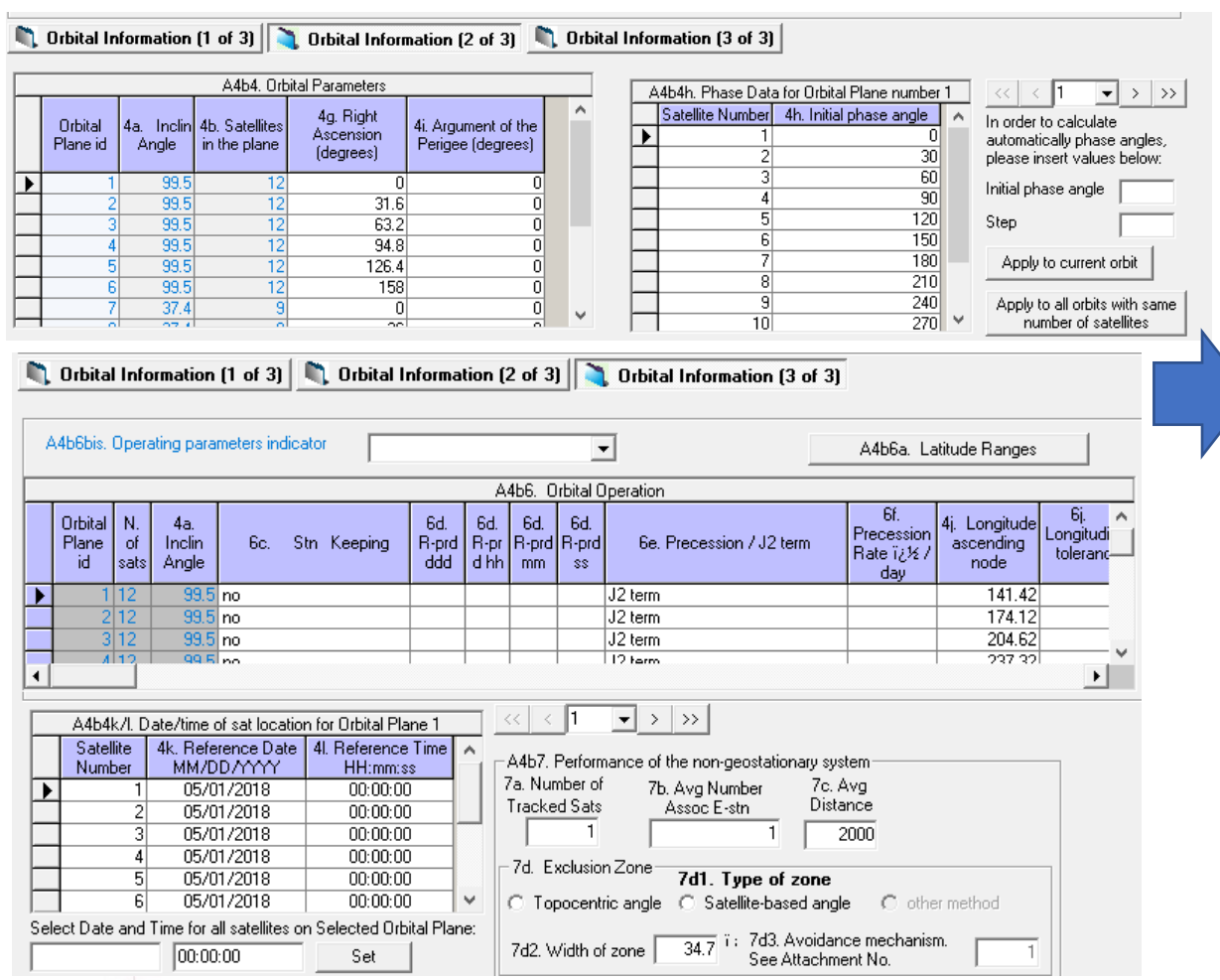
New Features for Non-GSO (6/9)

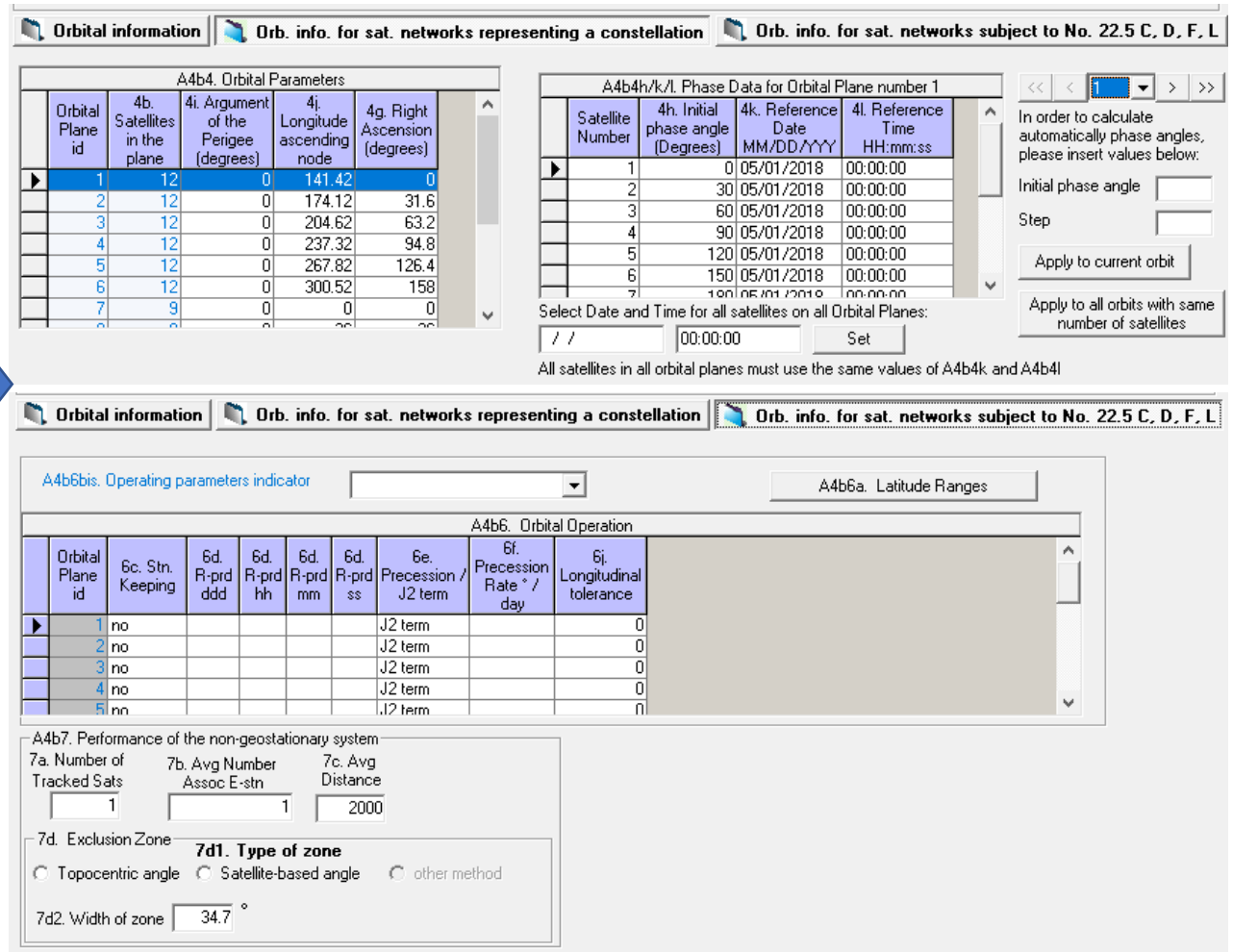
Regrouped orbital information capture for CR/C



New Features for Non-GSO (7/9)

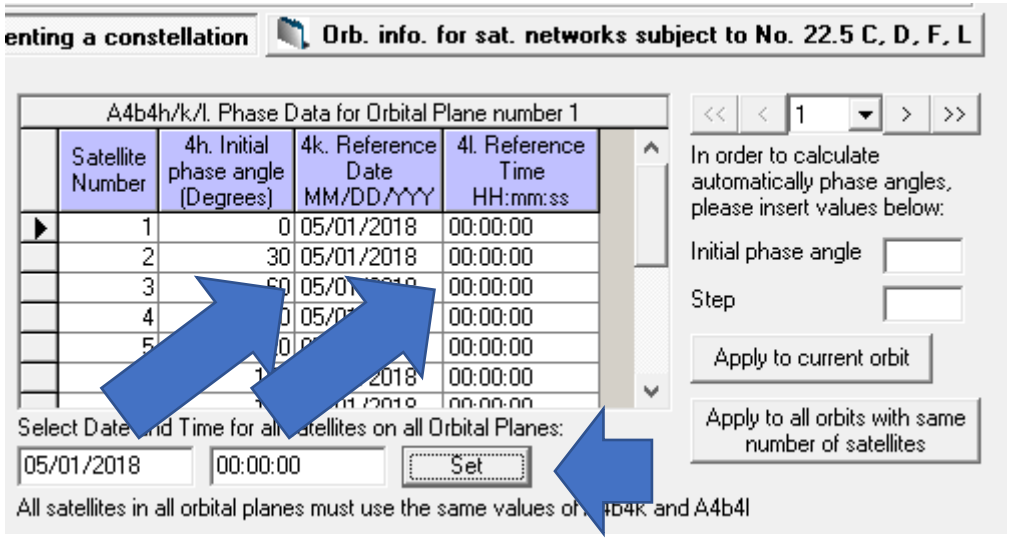
Regrouped orbital information capture for Notification





New Features for Non-GSO (8/9)

Reference date (A.4.b.4.k) and time (A.4.b.4.l) must be the same for all satellites in all orbits – this has been made easy to capture by adding UI elements and internal logic



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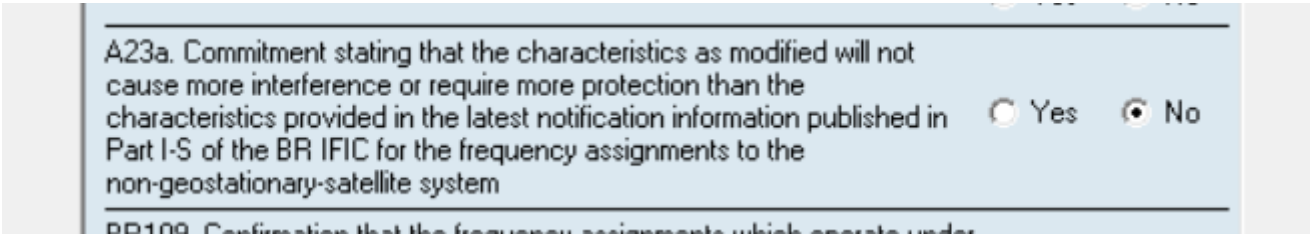
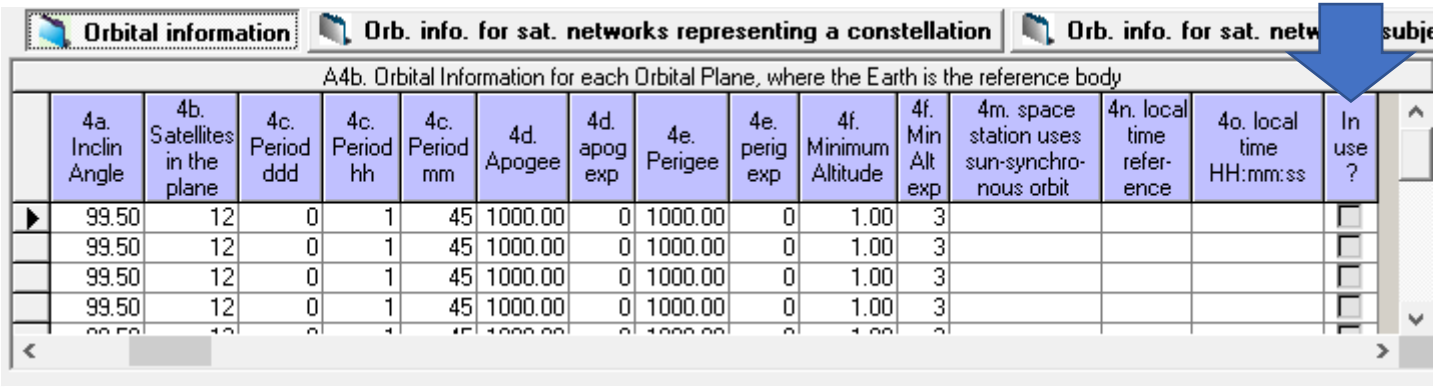
New Features for Non-GSO (9/9)

- Capture of commitment A.23.a MILESTONE (Note 7 in Preface)



- Showing the “orbit in use” indicator for Notification (read-only)



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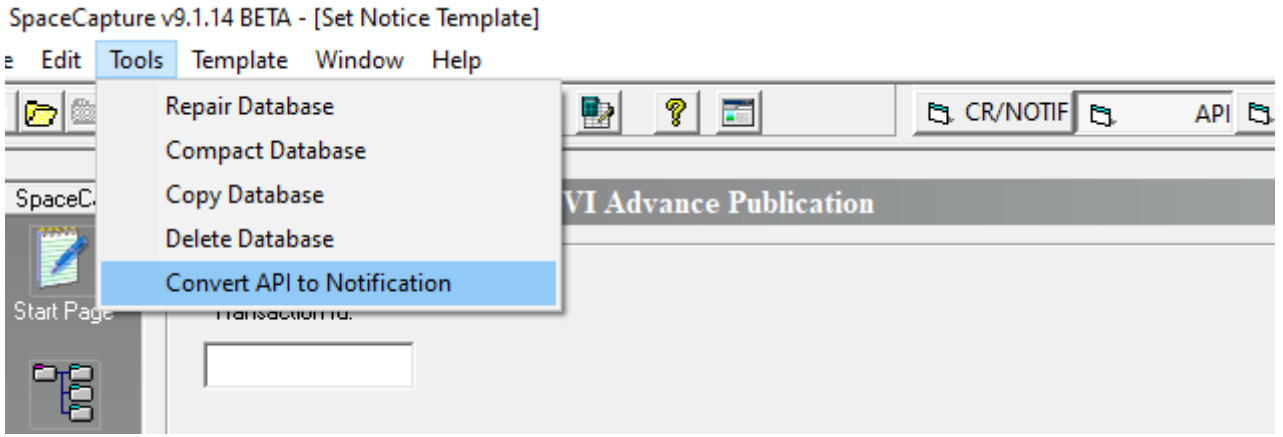
New Features for API

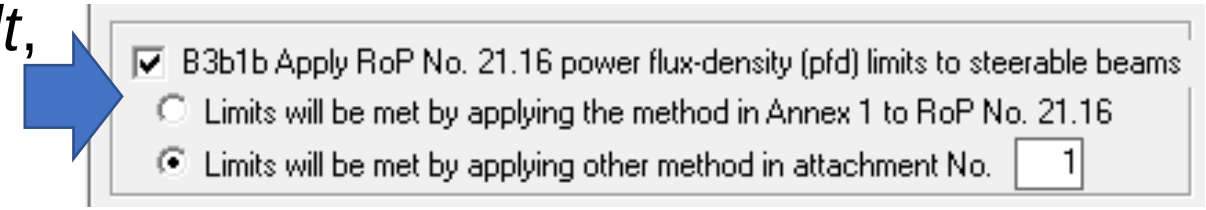
- New menu option to launch the “Create first notification” wizard for API



- "Create first notification" wizard can now open any MDB containing an API

Other Non-Cosmetic Changes

- Capture of service area codes for CR/C and Notification has been discontinued - replaced by capture of GIMS service area diagram
- Steerable beams – explicit indication of whether the PFD limit in RoP 21.16 is applied or not (new value ‘X’ in database column *s_beam.f_pfd_steer_default*, equivalent to “unchecked”)



- Improvement in frequencies capture:
  - Support 9 decimal places if the frequency is given in GHz
  - Better support for automatically re-formatting the frequency in kHz/MHz/GHz considering the RR cut-off values (28MHz, 10.5 GHz)

Changes Concerning Attachments

Removal of "Attachments" tab (*attch* table was removed from the database schema)

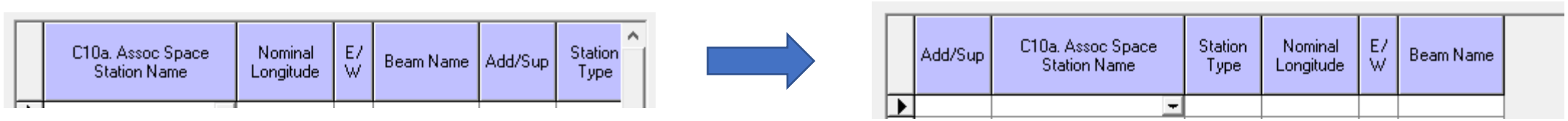
- No longer necessary since the introduction of e-Submission system

Suppression of several attachment-related data items:

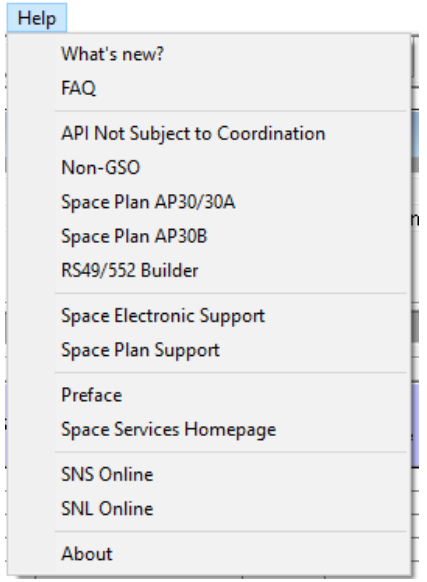
- B.3.b.1 s_beam.attch_gain (must be a GIMS diagram)
- B.4.b.3 s_beam.attch_loss (suppressed by WRC-19)
- A.4.b.7.d.3 non_geo.attch_x_zone (suppressed by WRC-19)
- non_geo.attch_simult_ops (this was already read-only in v9)
- A.4.b.1.d non_geo.attch_multi_config (replaced by orbit.orb_set_id)

Other Changes

- Rearrange the columns in the “Associated Space Stations” grid



- Help menu entries now point to relevant resources on the ITU Space Services website



- Better error handling in several screens/tabs

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Future of SpaceCap

Legacy SpaceCap is maintained and improved

- All code to be reviewed for compatibility with SQL Server master database
- Better error handling
- Better performance

Work is on-going towards a completely new application in BRSIS (BRSIS-Capture)

- Much improved user experience and performance
- More real-time validation ⇨ less need to invoke BRSIS-Validation
- Integration with other “modules” in BRSIS (Validation, SpaceQry, SRSConvert, SpacePub)
- Migration to SQLite database format

Thank you!

ITU – Radiocommunication Bureau

Questions to brsas@itu.int