CSST USERS GUIDE

Network Operations

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SUPPORTING EUROPEAN AVIATION

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APPROVAL TABLE

The following table identifies all management authorities who have successively approved the present issue of this document.

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EDITION HISTORY

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EDITION CHANGE RECORD

Title	Amendment notes
1. Introduction	
2. Using the CSST Application	
3. Schedule File Formats	
4. Access to CSST	
5. Workflow Areas	
6. Build	
7. Prepare	
8. Detection	
9. De-confliction	
10. Set Up Management	
11. Additional Functions	**New section**
12. Error Messages	
13. Glossary	
14. Annex 1	
15. Annex 2	

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1 Introduction

1.1 Purpose

The purpose of this document is to provide a guide to the core processes of the Call Sign Similarity Tool (CSST). It intended to assist the user in navigating the basic functionality of the tool.

This CSST User Guide is available for release to those users who have secure token access for CSST.

1.2 Structure

The CSST User Guide is structured as follows:

- Accepted file formats.
- Access to CSST; features required to complete the workflow from data upload, detection and de-confliction.
- Some additional advice on best use of the CSST for de-confliction
- Glossary of terms and abbreviations
- Annexes containing simplified short scenarios with screen shots

1.3 Other Instructions

New, or changed, procedures will be published via an update to this manual or as a separate instruction.

1.3.1 Change Control

Any proposed change to, or problem found, in the document should be submitted to the CSMC.

1.3.2 Referenced Documents

CSS Operational Requirements Document (ORD)

CSST Requirements and Features Specifications

CSST RFS _cpa_rfs_csst-labels[1].doc

1.3.3 Scope

The scope of this guide applies to CSST software release NM 25.0.

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2 Using the CSST Application

This section offers a list of steps and best practice to be followed when using the CSST.

1. Prepare the schedule format for upload following chapter 3. If in doubt, send an example to CSMC.
2. It is best to mark connected flights in the schedule before uploading. This refers to those flights, which are operated by the same aircraft on multiple legs. These may be marked in the IATA SSIM format or using the column Next CFN in an Excel type schedule file (Ch.3.4 optional columns). Otherwise mark them manually at the end of the workflow after detecting conflicts (Ch.8.4.4 Same Aircraft button)
3. It is best to mark those flight numbers, which are not to be changed, or those, which cannot be changed due to overflight clearances. There is no facility in the IATA SSIM format for this. They can only be marked in an Excel type schedule using the column 'No Change' (Ch.3.4 optional columns). Otherwise they may be marked manually after uploading the schedule
4. Decide in advance, which formats to use for call signs. Example nnnA, nnAA where n= digit and A equals an alphanumeric.
5. Think about any of the constraints there may be in changing flight numbers and call signs. For example, experience may have shown that a particular airport does not appreciate call signs, which terminate in the runway designator. Example 32L.
6. Before implementing operationally, any proposals from the CSST application make sure crews and other contacts are aware of the upcoming changes particularly if alpha-numerics are being used for the first time.

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3 Schedule File Formats

3.1 Schedule Formats

CSST supports the upload of three schedule data formats:

- SSIM (IATA “Standard Schedule Information Message”)
- Excel .xlsx (using Eurocontrol CSST header and saved as an .xlsx type file).
- Excel .csv (using Eurocontrol CSST header and saved as a ‘comma separate value’ type file) (still supported but it is recommended to use Excel xlsx if possible).

3.2 SSIM format schedule File

CSST accepts the IATA Standard Schedule Information Manual (SSIM) format

The key information in the flight detail (line 3) will be used by CSST.

File size is currently limited to 20MB and files must have extension .ssim

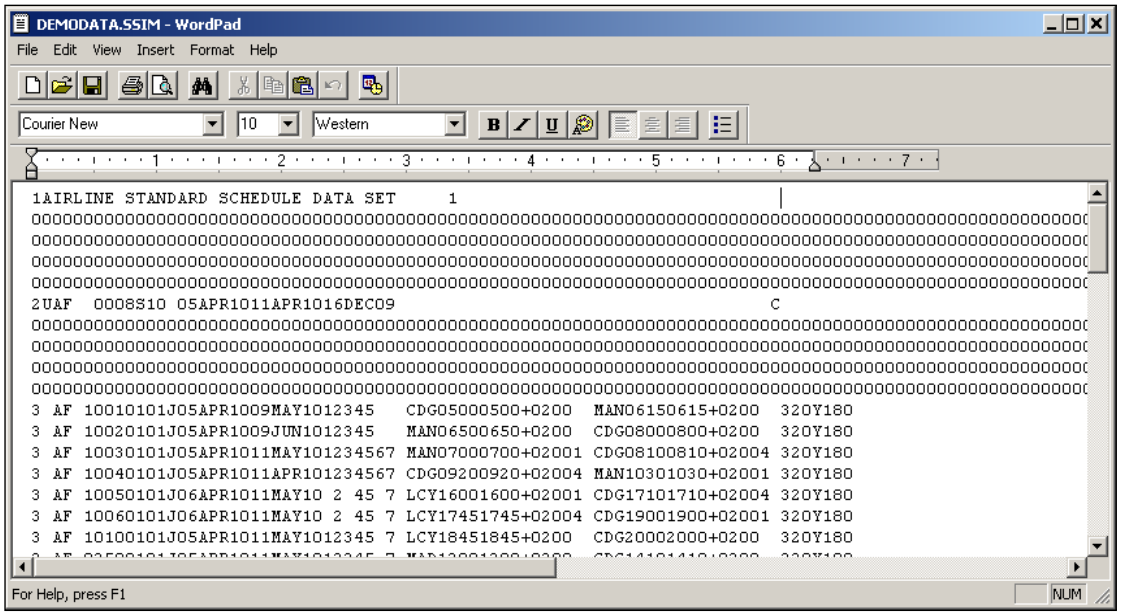

Figure 1 - Example of SSIM format schedule

3.3 CSV and xlsx format schedule files

A header is used to determine which columns are present in the schedule. The order of the columns is unimportant and there can be additional columns containing information not required by CSST.

If a mandatory column header is missing CSST will report this as ‘Missing Column Error’.

The schedule can be prepared using Excel and must be saved with extension .csv or .xlsx.

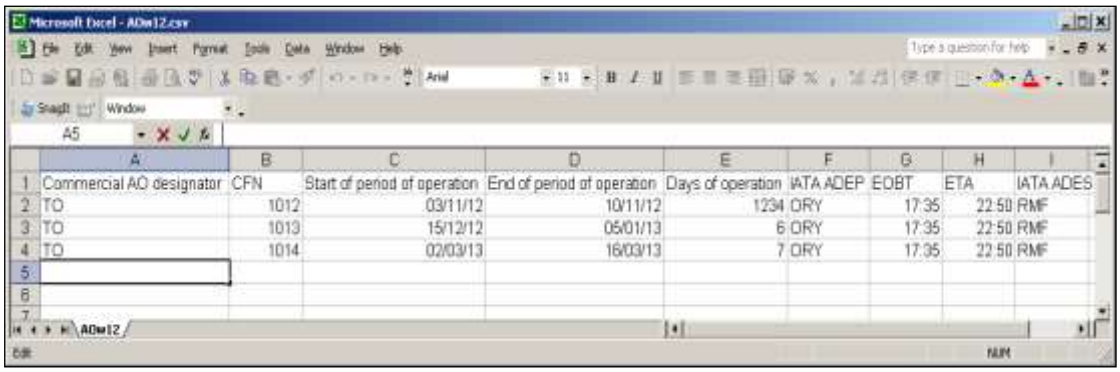

Figure 2 - Example of csv/xlsx format containing the minimum required fields

3.3.1 Mandatory field items and corresponding column headers

Some mandatory field items have the option of entering the data in one or more columns.

3.3.1.1 Departure and Arrival aerodromes

Two columns which can be specified as either: IATA ADEP and IATA ADES or ICAO ADEP and ICAO ADES or both.

3.3.1.2 EOBT and ETA

Two columns using time format hhmm.

3.3.1.3 Period of Operation and days of operation

Either:

Three columns: Start of Period of Operation, End of Period of operation and days of operation.

Date formats accepted:

- ddMMMyy
- ddMmmyyyy : e.g. 01Feb2012
- dd-Mmm-yy: e.g. 01-Feb-2012
- dd/mm/yyyy: e.g. 30/02/2012
- ddmmyy:: e.g. 230512
- ddmmyyyy:: e.g. 23052012

Or:

Two columns: period of operation (ddMMMyy-ddMMMyy or ddmmyyyy-ddmmyyyy) and days of operation.

Days of operation always has 7 characters, either blank, dot, underscore or a digit.

3.3.1.4 AO and CFN

One column: Commercial AO designator and CFN (example KL1234)

Or:

One column: ATC AO designator and CFN (example KLM1234)

Or:

Two columns: Commercial AO designator, CFN (example KL, 1234)

Or:

Two columns: ATC AO designator, CFN (example KLM, 1234)

Or:

Three columns: Commercial AO designator, CFN, ATC AO designator (example KL1234, KLM)

3.4 Optional Columns

CFN Suffix One column. Example P. Or included inside CFN column Example 545L

ATC AO designator One column. Example SWR

ATC Flight ID One column Example: 545L

ATC AO designator and ATC Flight ID 1 column Example KLM123K

Aircraft Type Specified as IATA aircraft type or ICAO aircraft type or both.

No-change indicator Specified as 'Y' if the user does not wish CSST to change the Call Sign. Specified as 'N' if the user allows CSST to change the Call Sign if required during deconfliction.

Change-actions indicator

Call-sign format Used to fix the format for a particular Flight or 'Flights during deconfliction. Specified as n, nA, nnAA ,nnnn.

Next CFN Example 4567 or with suffix 4567P

Next Commercial AO designator Example: U2

Next ATC AO designator Example: KLM

Next flight columns

CSST supports next flight (otherwise known as linked flight or onward flight) where the next flight AO designator is different from AO designator (example AF123 next flight BZH125). In this case CSST will take into account BZH as the AO designator for the next flight.

One column: next CFN (example 1234)

One column: Commercial AO designator of next flight and CFN (example KL123 or KL 1234)

One column ATC AO designator of next flight and CFN (example KLM123, KLM 1234)

4 Access to CSST

CSST is accessed via the) following URL using an NM Secure ID Token

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/index.html

The application offers the best user experience with FIREFOX. Other browsers whilst not supported may be usable with some degradation in performance.

Change default browser settings:

Firefox:

By default and as a safety feature, Firefox forbids scripts to raise windows and, subsequently, the Portal feature of bringing windows to the front cannot work.

To overwrite this safety measure one has to open the options dialogue by selecting the menu entry Tools -> Options, select the Content tab, click on the Advanced button next to "Enable JavaScript" and ensure that the check box "Raise or lower windows" is selected.

Log in using a Token ID.

The 'Resources' tab on the left of the NOP screen will reveal the 'CSST' section.

When finished a CSST session it is good practice to correctly close it by disconnecting from CSST, then to log out from the NOP page. This is to mitigate the possibility of an interruption and corrupted data.

By default and as a safety feature, Firefox forbids scripts to raise windows and, subsequently, the Portal feature of bringing windows to the front may not always work.

To overwrite this safety measure one has to open the options dialogue by selecting the menu entry Tools -> Options, select the Content tab, click on the Advanced button next to "Enable JavaScript" and ensure that the check box "Raise or lower windows" is selected.

Connecting will show the two workflow areas available to users: '**Set Up Management**' and '**View Management'**. These workflow areas allow the user to work in isolation from other CSST users.

A light user who wishes merely to carry out a detection and/or de-confliction using the reference set ups should go directly to chapter 5. (View Management) in order to start the workflow by creating a View.

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5 Workflow Areas

5.1 View Management

This area is where the user creates his workspace for detection and de-confliction regardless of whether the user has made any set up changes in the Set Up Management area.

The CSST schedule workflow is based around three main phases: BUILD, PREPARE, DETECTION/DE-CONFLICTION. The user will create a workspace called the View, go through the Build, and Prepare phases in order to achieve the final phase of Detection/De T confliction.

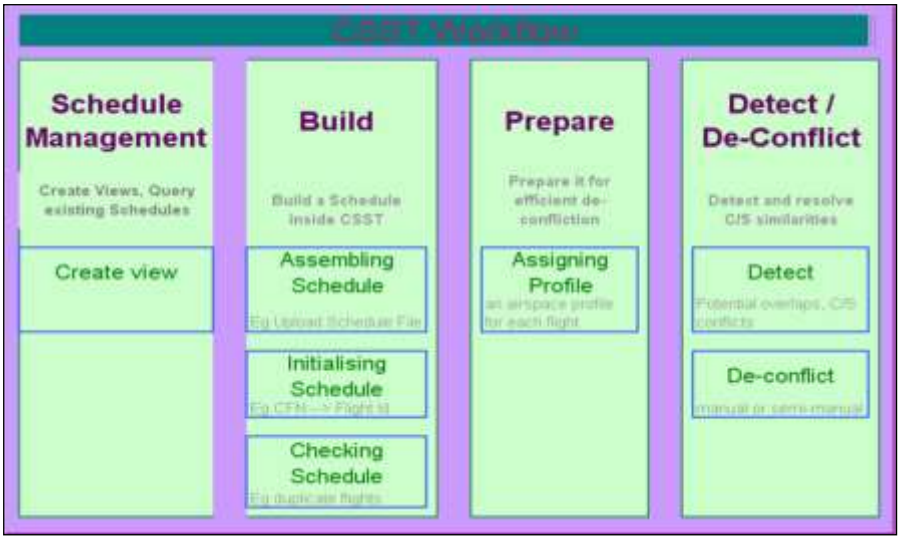

Figure 3 - CSST Workflow

5.1.1 Create a view

Create a 'view' to contain a schedule file. After connecting to CSST via the URL link, click on the tab 'view Management'. The following window will appear:

Figure 4 - Create a View

Click the button 'Create view' to create a new view, or use the Query fields to retrieve an existing view.

5.1.2 Enter view Details

In a new view, enter a name for your View

'Operational Mode' (PRESEASONAL) (default)

'Season'

If the Reference Date is, used CSST will truncate the validity period of flights using the selected Reference Date. This allows the user to detect a part of the schedule.

The user can allow CSMC access to the view by selecting 'Visible to CSMC'.

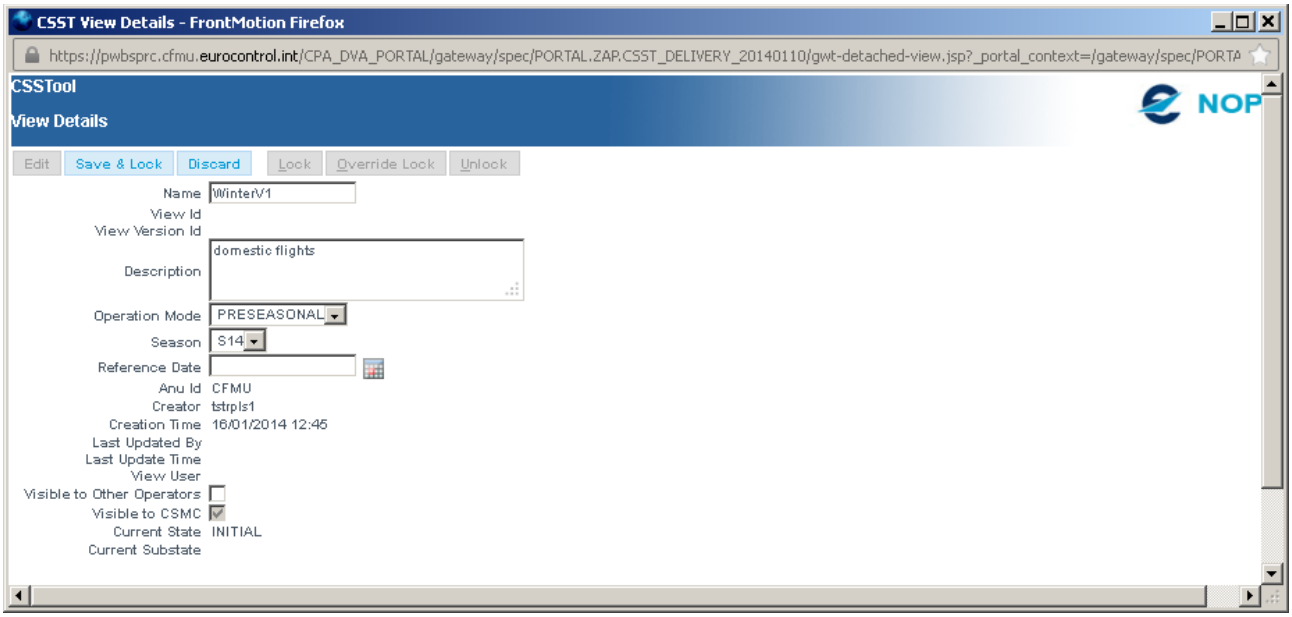

Figure 5 - Enter View details window

Click on the tab 'Save and Lock'.

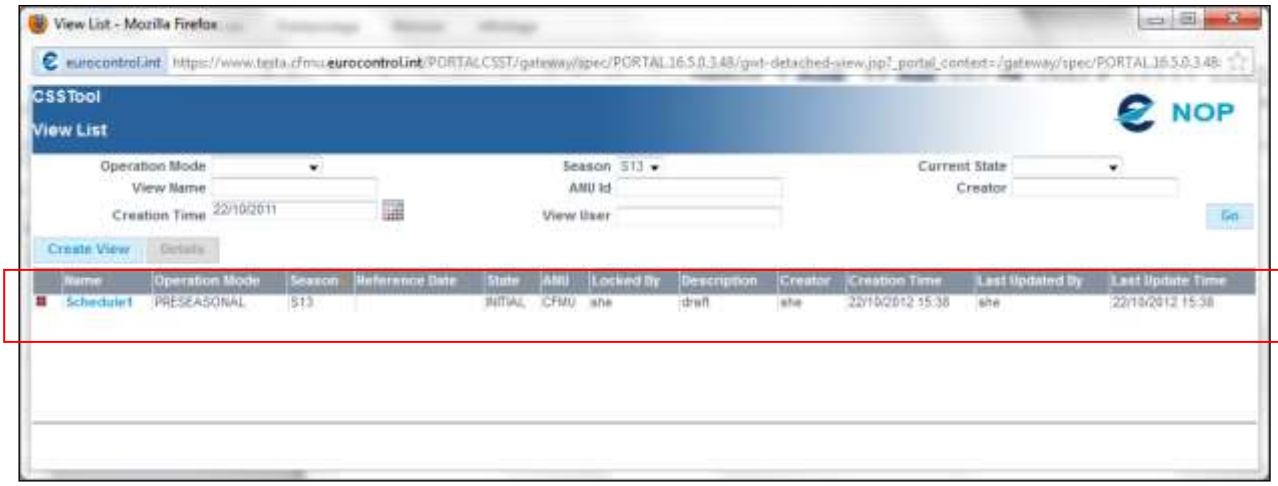

Figure 6 - Created View visible in View List window

The newly created view will be added to the view List.

The View workflow window will open and the user can start the workflow, the first step being to upload the schedule or schedules (Chapter6 BUILD).

6 Build

6.1 Uploading Schedule

The schedule must have extension .ssim ,csv or .xlsx

Select Upload Schedule File Allocate a name and description to the file to be uploaded.

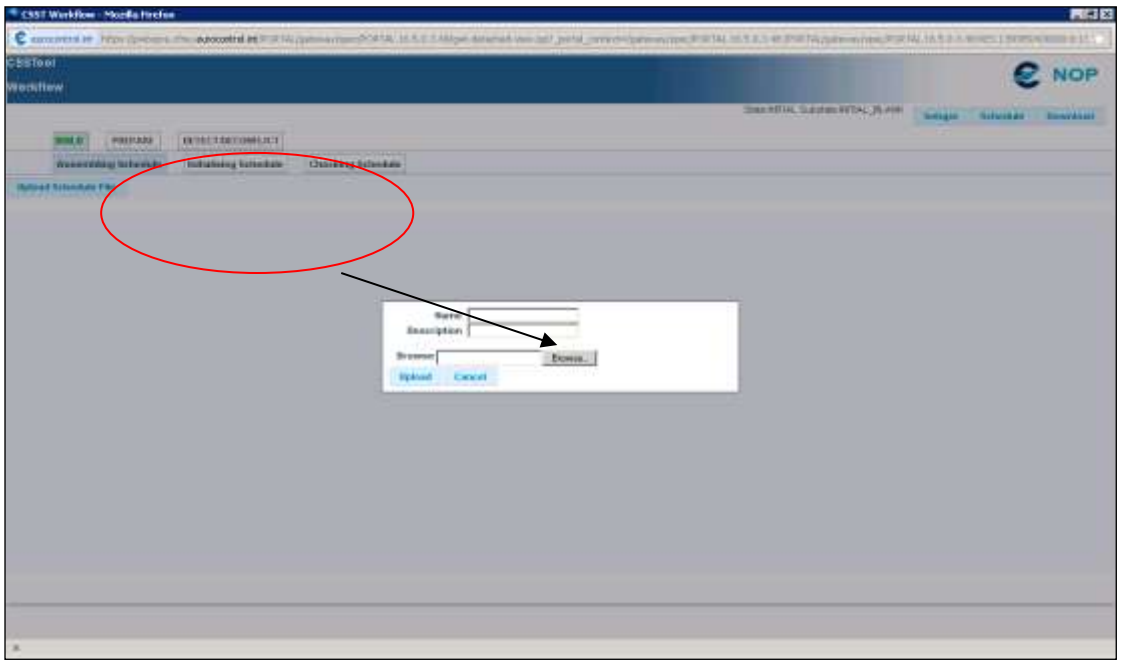

Figure 7 - Enter a Name and description to the schedule to be uploaded

Enter a Name and Description and then click Browse...

The File Upload window will appear

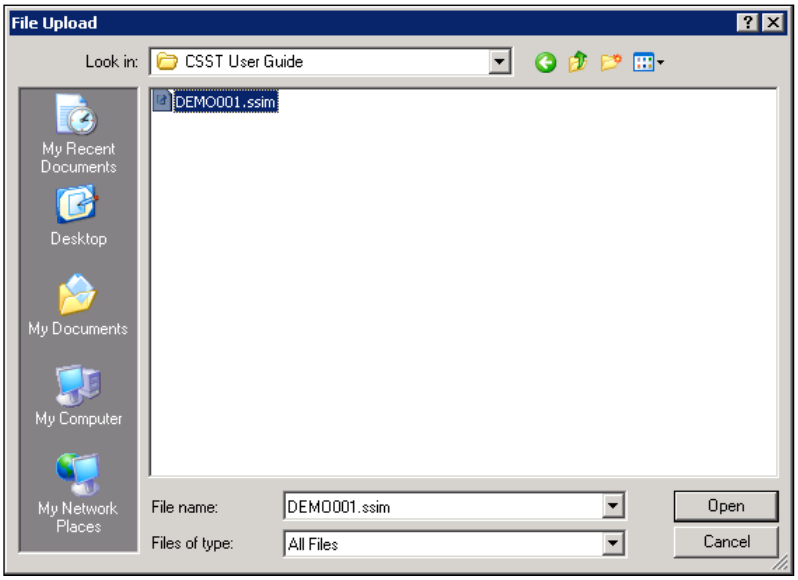

Figure 8 - Select the schedule from file manage location

Select the required schedule and click Open.

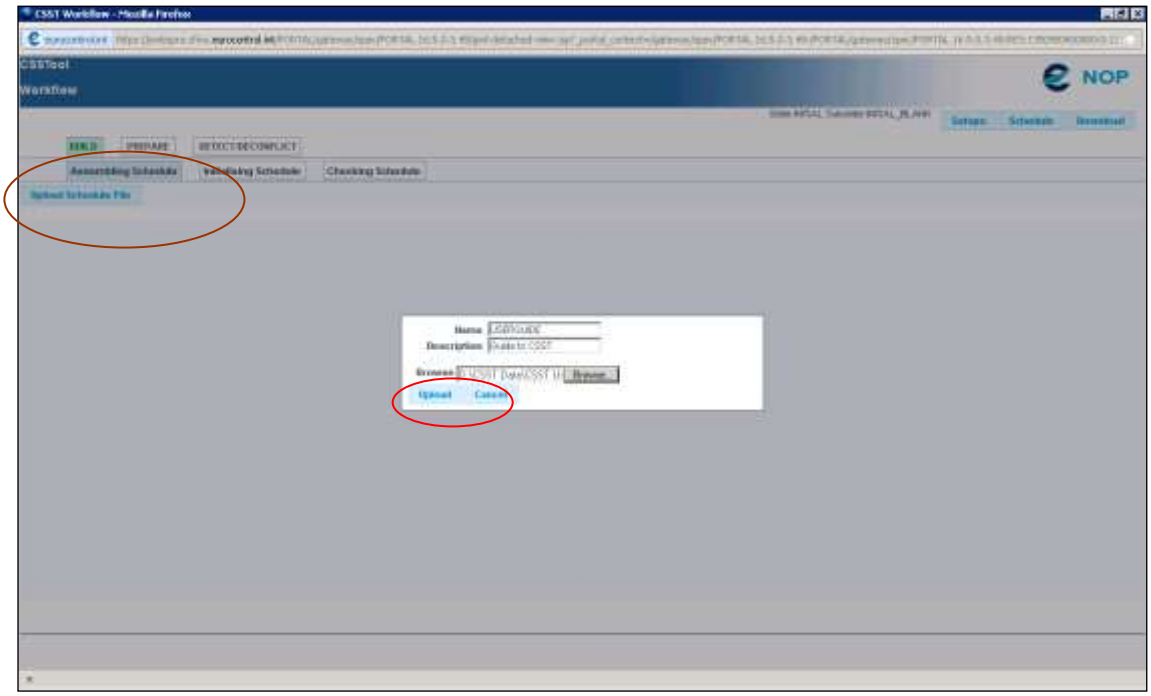

Figure 9 - Click on upload

The User may now use the 'Go To Conflicts' button to advance the workflow.

The button will attempt to advance through the required steps and display the conflict list.

The advanced user wishing to go through the workflow steps individually in order to modify setups or preferences should start at Chapter 6.2 BUILD.

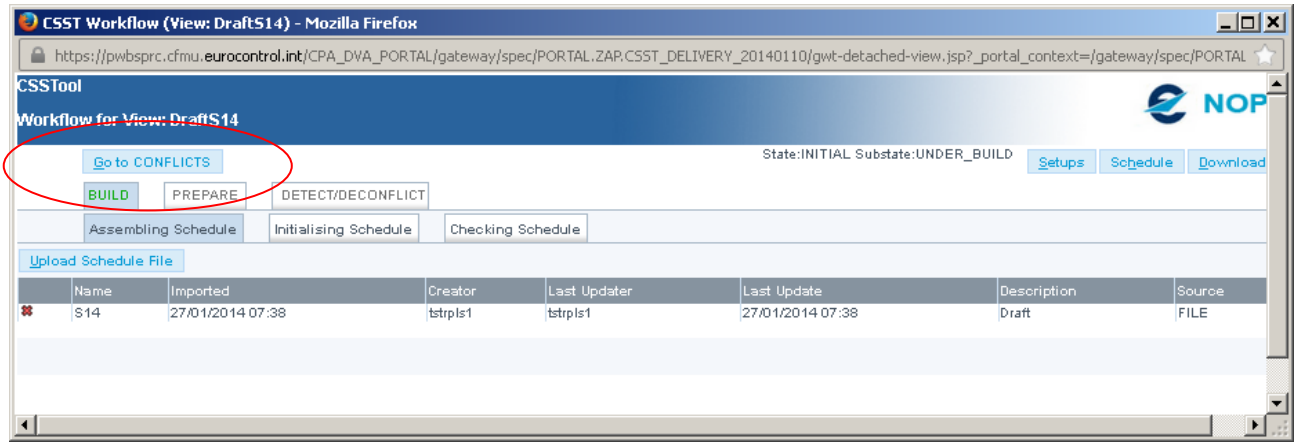

Figure 10 - Go to CONFLICTS button

If the operation is successful the conflict list will be displayed and the user can go directly to Ch. 8.1

If CSST cannot proceed through the workflow steps automatically, CSST will terminate where errors are found either at the Initialisation or checking phase see 6.4 and 6.5.

6.2 View Setups

View setups allows the user to override or add preferences outside those of the global reference setups. . View set ups are specific to a view and will override or supplement any AO Set ups which may have been set in the Set Up Management area.

View Set Ups are divided into two areas, Build and Deconflict:

Build Setups include Call Sign Maps and Leading Zero policy. Deconflict Setups include modification of the reference buffer times and creation or deactivation of similarity rules. These detection set ups will be applied by the Tool. Setups are defined as GLOBAL or AO. The AO can thus elect to override the (CSMC) GLOBAL Setups thus allowing the AO to use his own preferences.

6.2.1 Build Set ups

1. **ATC AO Designator (allows override of the ICAO code mapped from the IATA table)**
2. **Leading zeroes policy**
3. **CFN Suffix policy**
4. **Call Sign Maps**
5. **Identical CFN resolution**
6. **Initialisation constraints**

6.2.2 ATC AO designator

Used to override the normal mapped ICAO 3 letter code which will appear in the CSST workflow and output. Enter the code and click on Save. Individual views can however ignore this when override is ticked (default).

6.2.3 Leading zeroes policy

Here the User can determine his policy on using leading zero's in the Flight Id. By indicating the minimum length of the Flight Id (1-4) the number of leading zero's output in the Flight Id is determined.

For example if the CFN is 0012 the User can select length '3' and the Flight Id will be initialised as 012.

6.2.4 CFN Suffix policy

This allows the User to 'IGNORE' 'USE IF POSSIBLE' or 'USE BY FORCE'

The default 'Use if possible' will add the suffix to the Flight Id. The 'USE BY FORCE' will insert the suffix even if it means truncating the Flight Id. For normal schedule, Detection/De-confliction the suffix is not used.

6.2.5 Call Sign Maps

This allows the Tool to map pre-determined Flight Id's during the initialisation. Typically this will be the case when the User wishes to use some Flight Id's from a previous season. The User will upload an Excel file containing this information.

A call sign map template can be created by using the download call sign map function in CSST. To get a template first upload a schedule then select call sign map form the download function. Otherwise a call sign map can be manually created from an xlsx spreadsheet. Minimum columns required are "'Commercial AO designator", "CFN", "ADEP", "ADES" (either IATA, ICAO or both).

6.2.6 Identical CFN resolution

This setup specifies if during de-confliction, all flights with the same CFN will be changed together.

CSST tries to group those flights with the same CFN into a 'Same ID Set'.

The default setting ensures that if the User changes a Flight Id then all other occurrences of the same CFN will also be changed to the new Flight Id. If the user overrides the default setting (unticks the box) then all same CFN will be changed to the new Flight ID only if they have the same city pair (for example 1012 EGBB-EGLL and 1012 EGLL-ENBO will not be grouped together with the same Flight ID.

The user also has the opportunity at a later stage to manually add flights or remove flights from a 'same id set' during de-confliction. This is done by selecting flights and accessing the Same ID set.

6.2.7 Initialisation Constraints

These apply to csv and xlsx format schedules. They allow the user to dictate whether CSST will use the CFN or Flight ID for initialisation. The default setting is for CSST to use the Flight ID if present in the schedule and not the CFN.

This will ensure that CSST bases the initialisation using the Flight ID from the schedule file and not the CFN:

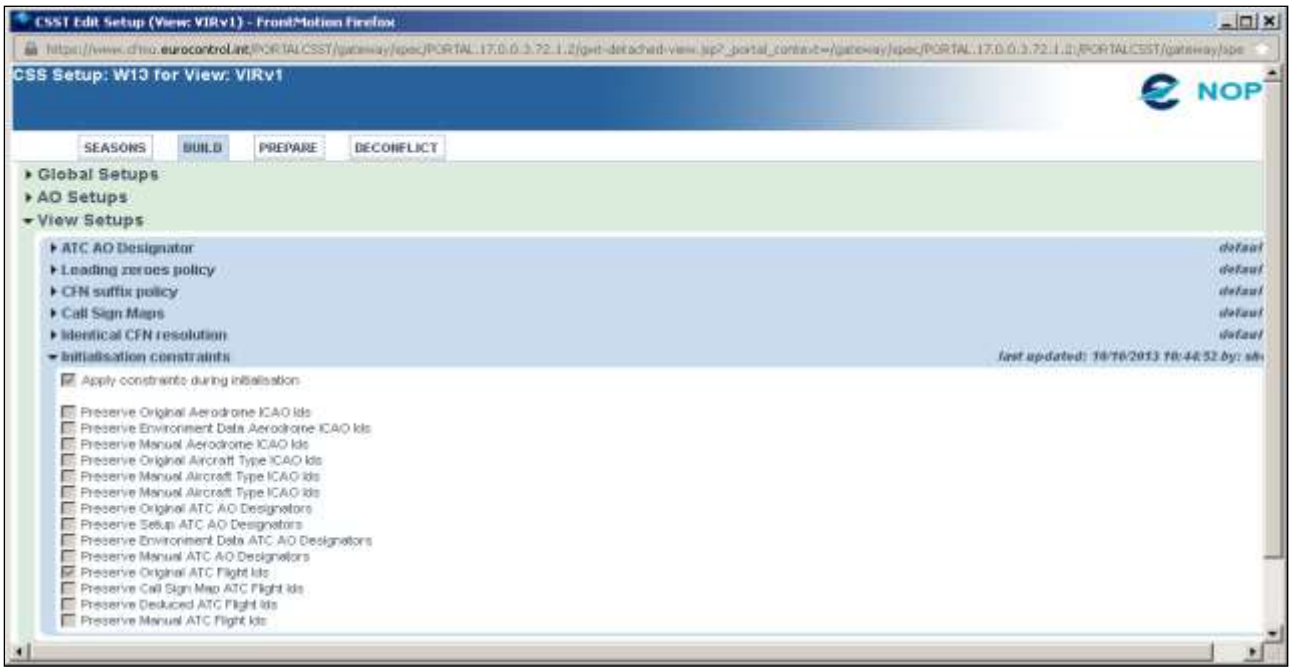

Figure 11 - Select Initialisation constraints and save

6.3 De-confliction set ups

1. **Buffer Times**
2. **AO Similarity Rules**

6.3.1 Buffer Times

From the Setups/De-conflict view Setups Select Buffer times as for 3.2.2.1.

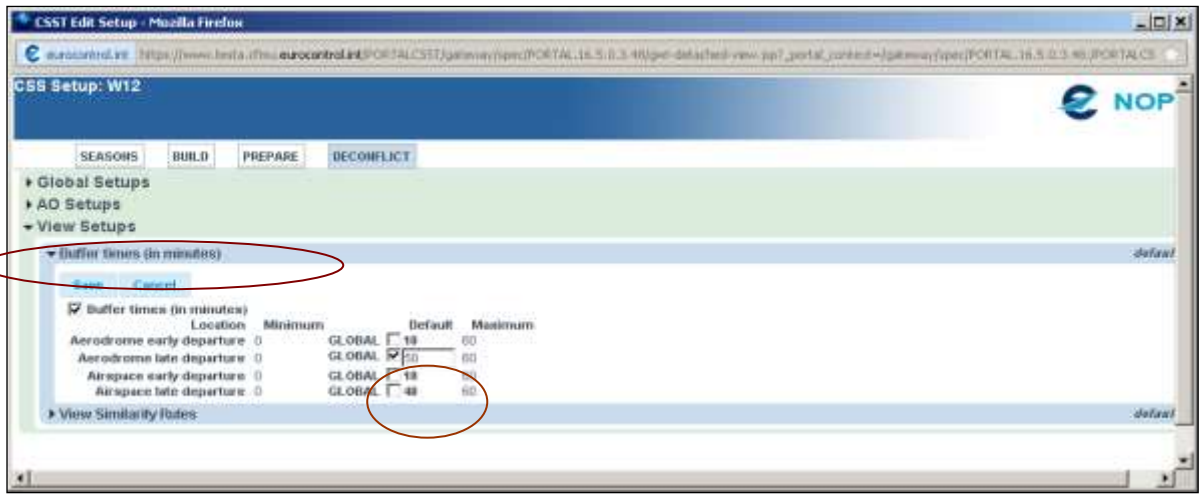

Figure 12 - Modification to buffer times

6.3.2 View Similarity Rules

From the Setups/De-conflict view Setups Select view similarity rules.

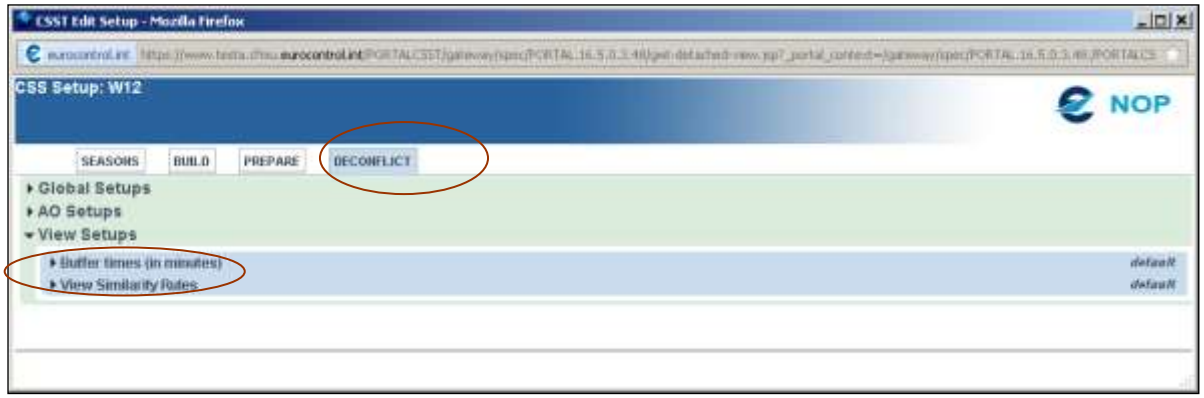

Figure 13 - Selecting View Similarity rules area

Follow the method in 3.2.2.2 for modifying or creating view rules.

6.4 Initialisation

Once the User has entered any set ups the initialisation step can be actioned. Initialisation will map the Flight ID to the CFN takes into account any of the Setups.

Initialisation will also map IATA aerodrome codes and aircraft types into the ICAO equivalent.

If Initialisation is not fully achieved the User will be presented with a list of those flights which have failed Initialisation. In this case, the user shall either correct non-initialised individual flights manually or contact CSMC to update the mapping tables.

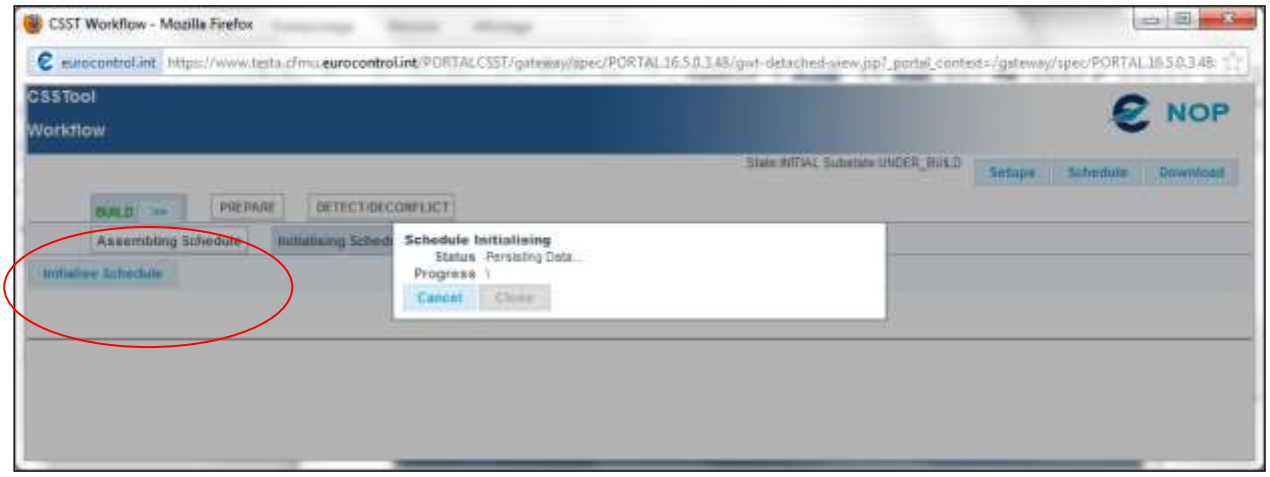

Figure 14 - Schedule Initialising

The effect of initialisation set ups such as leading zero policy on the schedule can be confirmed by querying the schedule from the setups area. If the user wishes to change his set ups he is able to do this and then repeat the initialisation step.

Once initialisation is achieved the next step is to select **Checking Schedule**.

6.5 Checking Schedule

Quality checking aims to have the schedule in the best state for detection and de-confliction. In particular if the schedule contains days of operation which do not match the period of operation this could affect the ability of CSST to fully de-conflict a schedule automatically.

The quality Check area consists of 6 collapsible result sets. Three of these areas must be corrected if necessary before continuing the workflow (1, 4 and 6).

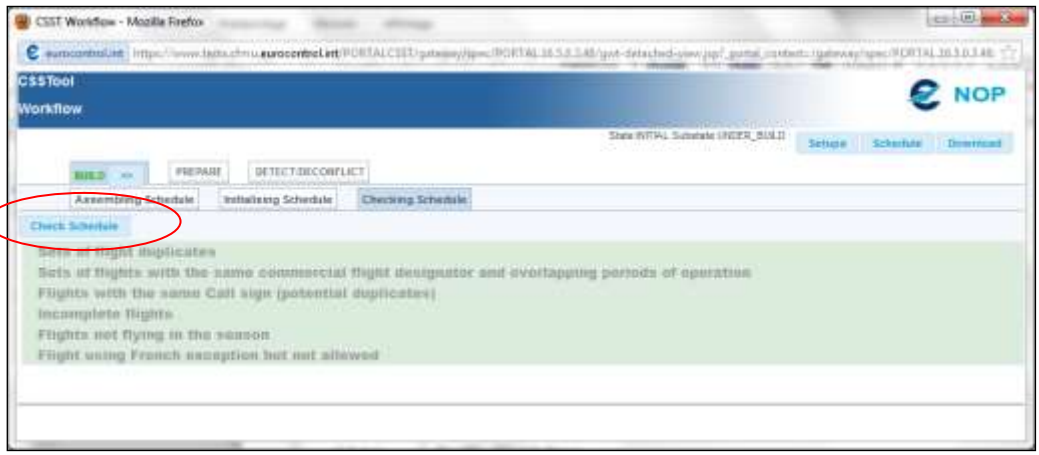

Figure 15 - Checking schedule

6.5.1 Quality Check Area

The six result sets are collapsible and those sets where possible anomalies have been detected are highlighted in bold. Incomplete flights and Flights using French exception require correction before continuing with the workflow. This can be done by deleting the flights directly from the checking area or from the schedule option in the view. If this is the case then the schedule must be re-initialised.

Other anomalies can also be updated/corrected manually at this stage by clicking on 'update' then re-initialising to refresh any manual changes.

1. **SETS OF FLIGHT DUPLICATES**

Duplicate data detected in the view. For example, same CFN and same Validity periods. The user must delete duplicates before continuing workflow.

2. **SETS OF FLIGHTS WITH THE SAME COMMERCIAL FLIGHT DESIGNATOR OVERLAPPING PERIODS OF OPERATION**

Same Airline designator and CFN but with overlapping periods of operation.

City Pair could be different.

3. **FLIGHTS WITH THE SAME ATC CALL SIGN (POTENTIAL DUPLICATES)**

Flags up for example different CFNs using the same ATC Call Sign

Ex. 1235 235A

3356 235A

Note however that the check does not take into account different days or periods of operation

4. INCOMPLETE FLIGHTS

Flights not completely initialized e.g. unknown aerodrome, Aircraft Type, AO.

This is considered an error and the User cannot continue.

5. FLIGHTS NOT FLYING IN THE IATA SEASON

Flags up flights in the loaded schedule with a period of operation outside the IATA season. The User would then decide if this is a typo error, otherwise he might delete them from the original schedule file. The parts outside the season will not be taken into account for detection.

6. FLIGHTS USING FRENCH EXCEPTION BUT NOT ALLOWED

Checks for breaches of the French exception rule (Flight ID format AAnnnAA).

If the AO has an exception to the rule then CSMC will enter the AO as allowed in the CSST rules

This is considered an error and the User cannot continue.

7 Prepare

7.1 Assigning Profile

This short phase associates an airspace profile to each flight in the schedule. These profiles are derived from the standard Profile Catalogue maintained by CSMC. The phase also prepares for detection by computing the flight overlaps (potential conflicts).

Click on profile to start the process.

Missing profiles are indicated as a warning that for these city pairs there will be no airspace overlap calculated. Only a check on aerodrome buffer times will be carried out

Once profiling is finished the user should continue the workflow and pass to the Detection step.

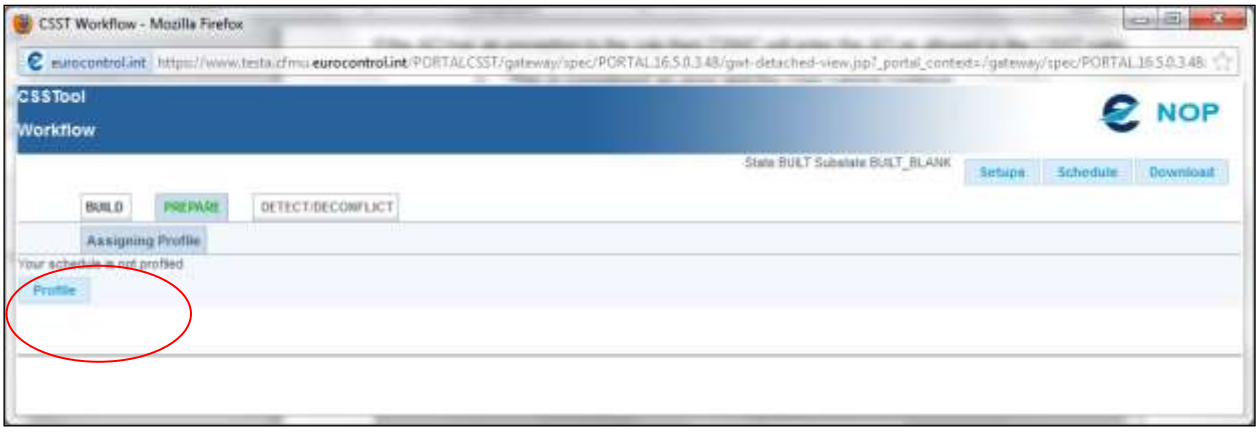

Figure 16 – Profiling

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8 Detection

This phase consists of detecting conflicts (of the overlapping flights and flight entities). These conflicts can then be analysed or de-conflicted using the manual, semi-manual or automatic de-confliction modes.

Click on Detect to start the process.

Figure 17 - Detection phase

On completion of the workflow the user should click on close to return to the view workflow area.

From there the user should click on conflict list and then GO to open the Conflict List (Global).

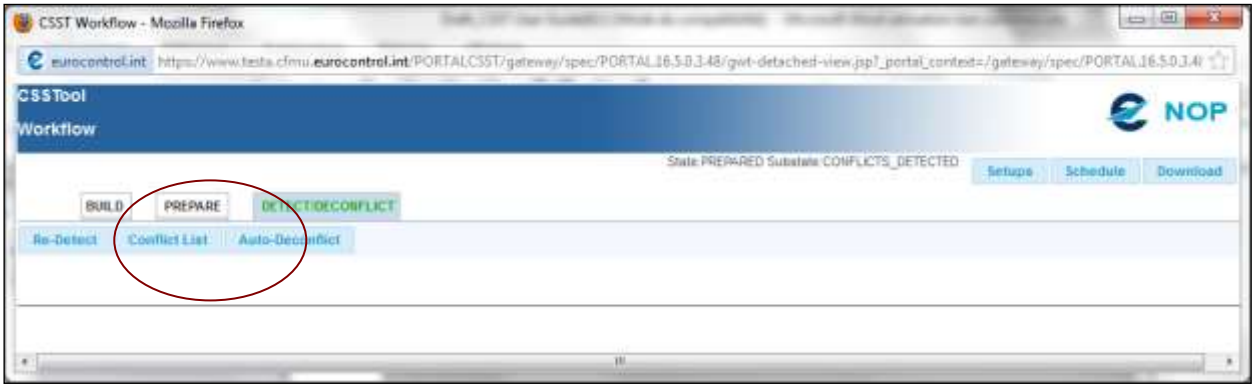


Figure 18 - Selecting the Conflict List

8.1 Conflict List (Global)

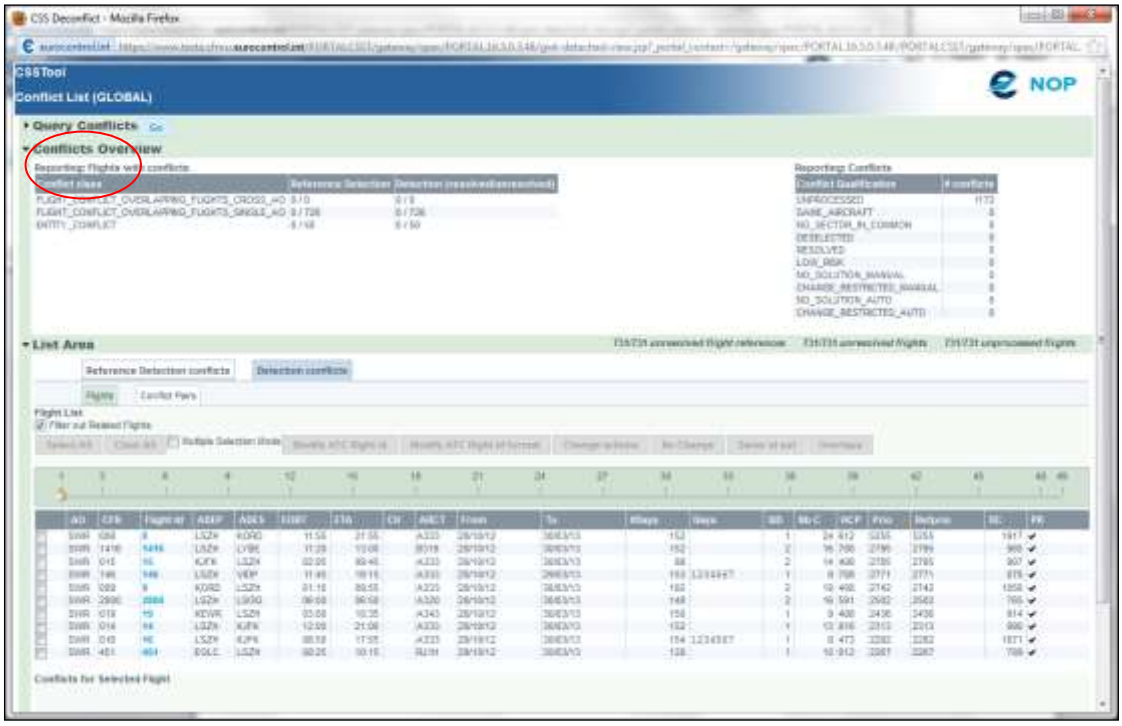


Figure 19 - Conflicts overview

The conflict list (global) contains four areas to assist the user in displaying and analysing flights and conflicts. The areas can be viewed together or collapsed for screen viewing.

- Query conflicts (divided into two parts: Flight criteria and criteria applied to conflicts)
- Conflicts Overview
- List Area
- Flight List

8.2 Query conflicts

If the user wishes simply to see all conflicts then the Go button (above) should be used directly.

Otherwise the Query screen is divided at a basic level into Flights filtering (Flights criteria) and conflicts filtering (flights criteria applied to conflicts).

On the left side Flights criteria is used to filter Flight s display and on the right side Flight criteria applied to conflicts.

8.2.1 Flights Criteria

This area allows filtering of Flights in preparation for de-confliction.

If the user wishes to filter flights with conflicts or flights without conflicts (conflictless) then the Flights criteria boxes should be employed.

Airline: enter the IATA airline code

From: enter the IATA aerodrome code of departure

To: enter the IATA aerodrome of destination

AO: enter the ICAO three-letter airline code

CSST also supports simple wildcards (* ?)Here uppercase text or wildcards (asterisk * and/or question mark?) can be used.

? fixed position example :

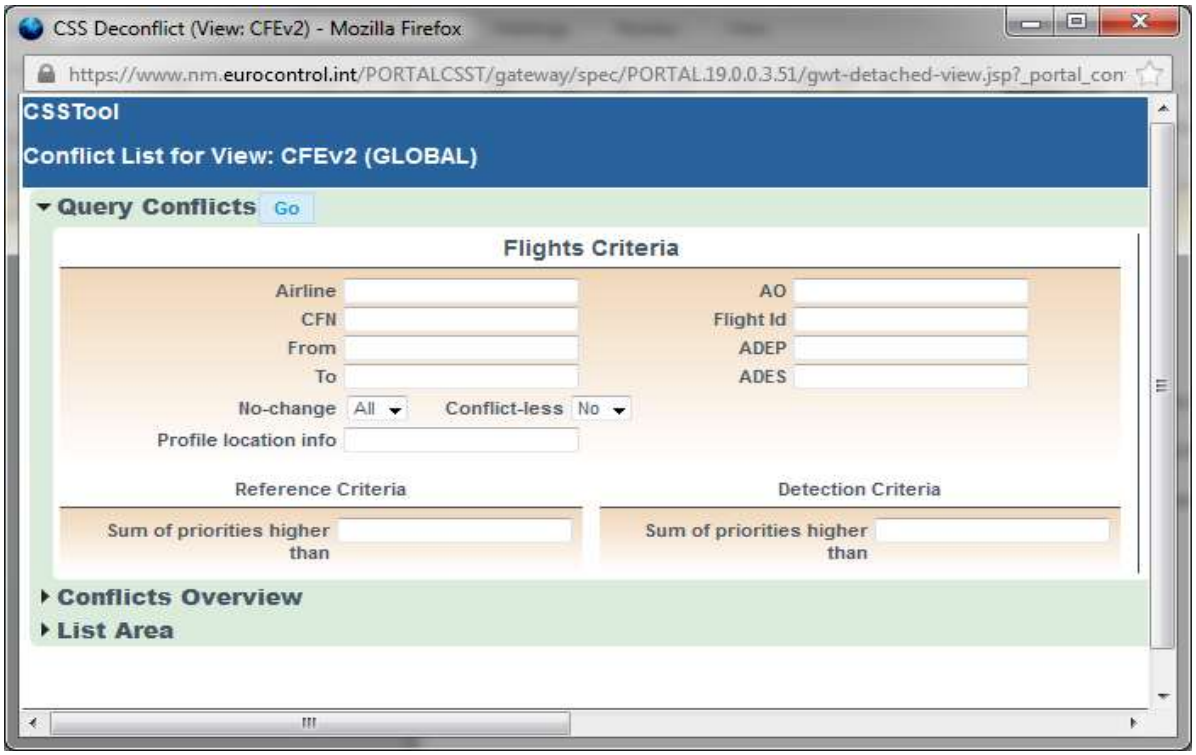
Examples

To display all conflicts for Flight IDs in the range 000-199, enter "0??[space] 1??" (not including the quotes) in the Flight ID text box:

To display all flights departing EGLL which have conflicts enter EGLL

- To display all 1 character format flights enter?
- To display all 2 character format flights enter??
- To display all 3 character format flights enter???

Once the filter criteria have been entered click on GO to display the flights in the List area



8.2.2 Flights Criteria applied to conflicts

Allows the user to filter on qualifications and conflict location according to either Reference or Detection criteria.

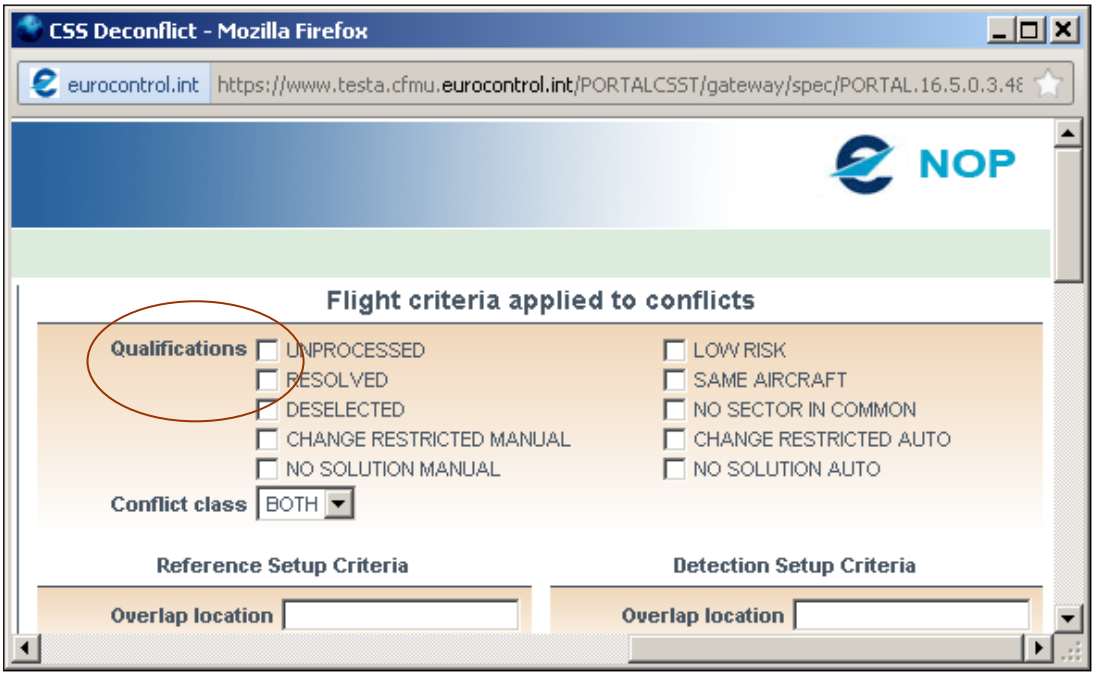


Figure 20 - Filtering on conflict qualification and overlap location

8.2.2.1 Qualifications filter

The user ticks the required qualification boxes and the conflicts will be displayed in the Flight List according to the selection.

Unprocessed

Resolved

Deselected A conflict that has been resolved due to the user deselecting rules or modifying buffer times. Shown as D in the conflict list

Change Restricted Manual

No Solution Manual

Low Risk

Same Aircraft

No sector in common

Change Restricted Auto

No solution Auto

8.2.2.2 Overlap location filter (choice according to Reference or Detection set ups)

The user enters an airspace or aerodrome entity or uses a wildcard (*).

Conflicts are displayed according to the airspace or aerodrome location overlap. For example if the user wishes to display all conflicts in Maastricht airspace the user enters EDYY*.

To display all flights having conflicts around aerodrome LFPG the user enters LFPG in the overlap location box.

8.3 Conflicts Overview

Displays two tables

- Reports on the number of individual flight IDs involved in conflicts. Reporting is per class (Entity, Flight (single AO and cross AO).

Flights are either Resolved or Unresolved according to Reference or Detection setups.

- Reports on the number of conflicts created by the flights. Reporting is per qualification. Qualifications are either made by the user or allocated automatically by CSST from schedule information (Unprocessed, Resolved, Same Aircraft, Deselected, etc.).

De-selected indicates conflicts taken out by the 'AO Detection' settings. As an example, if the 'Reference Detection' settings give 2000 conflicts due to the Anagrams rule and the AO takes out this rule from his Detection settings, then these 2000 conflicts would appear as 'deselected'.

8.4 List area

The display is defaulted to Detection conflicts criteria (AO setups/ rules) but can be changed to display flights according to the Reference Detection criteria (CSMC set ups/rules).

A further option is to display the conflicts as pairs by selecting 'Conflict Pairs'

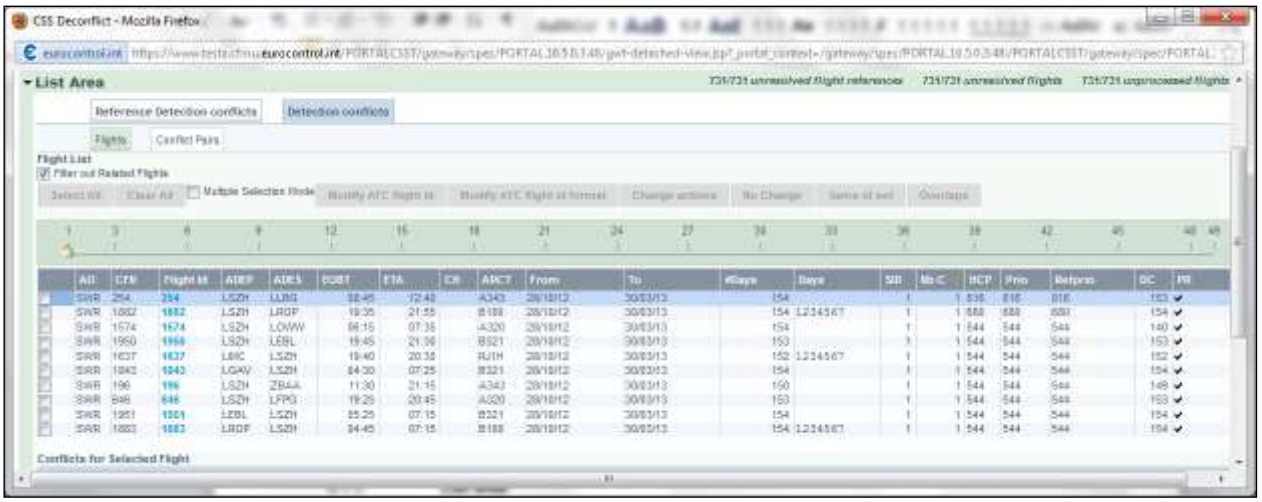


Figure 21 - Conflict pairs display

8.4.1 Flight List displayed as Flights

Each flight is listed under sortable columns containing key field information from the schedule and other information to enable analysis of conflicts.

To reduce the number of lines on the page the list area is defaulted to filter on related flights. So for example AFR001 will only appear once on the left side of the list even though it may be involved in many conflicts.

Each entry of a conflict in the Conflict List contains:

AO Flight designator (AO ICAO code)

CFN (Commercial Flight Number)

Flight Id (initialised from the CFN)

ADEP

ADES

EOBT

ETA

CH Denotes a flight subject to user No Change or format restriction

ARCT (ICAO Aircraft Type if known, otherwise zzzz)

From (The flight valid from period of operation)

To (The flight valid until period of operation)

Days (number of flying days of operation)

Days Days of operation

SID The number of flights which are in the same flight id set. If the user changes the flight id all flights in its same id set will also be changed.

#C The number of conflicts the flight is involved in

HCP Highest conflict priority

Prio Sum of priorities according to Detection parameters (average of rules, overlaps, number of conflicts)

Refprio Sum of priorities according to Reference detection parameters (average of rules, overlaps, number of conflicts) DC Number of total Days in conflict for this Flight ID

PR Indication if flight was profiled

The User can already make changes to a flight directly from this list by hard checking one of the flights. Multiple flights can be selected by selecting multiple selection mode and using the select all button.

Hard checking a flight or multiple flights enables certain function buttons and subsets. ('Modify ATC Flight Id', 'Modify ATC Flight Id format' ,'Change actions', 'Same id set' 'overlaps',).

Hard checking additionally populates the 'conflicts for selected flight' in the lower part of the screen 'conflict for selected flight'.

8.4.2 Conflicts for selected Flight

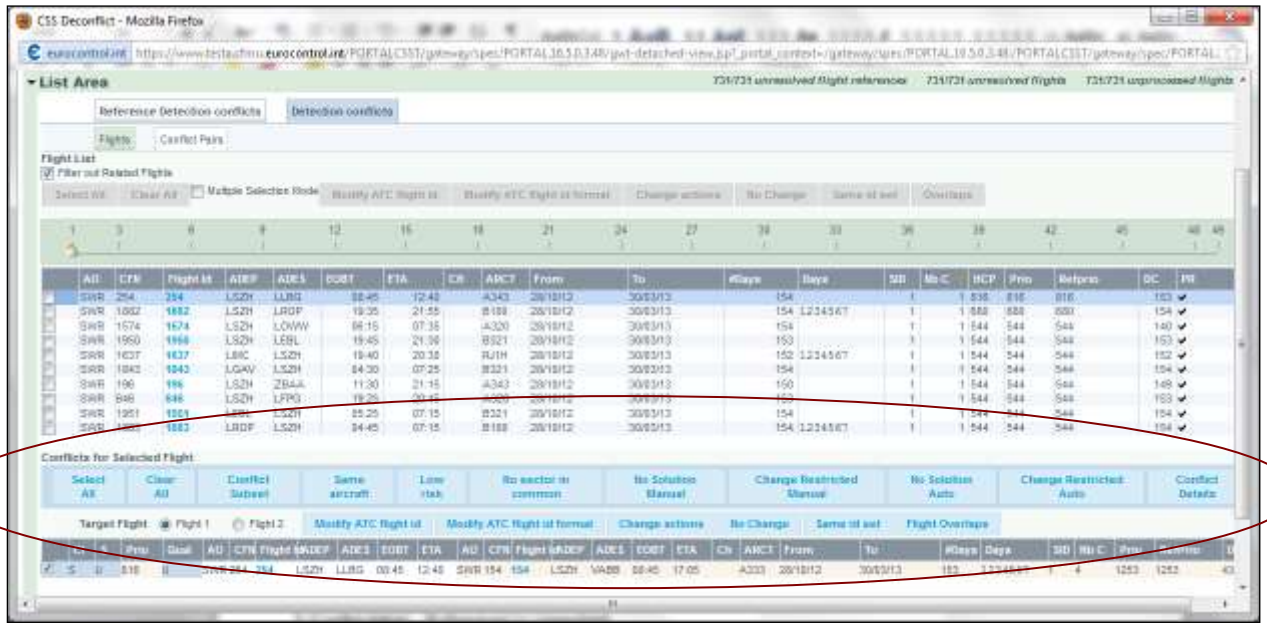


Figure 22 - Conflict detail for a selected flight

This displays information for the highlighted flight (Flight1) and on the right side information on the flight conflicting with it (Flight 2).

Flight 1:

Cl (Conflict Class N= not in conflict S=Single AO E=Entity conflict, X=multi AO)

S (Conflict status) R=Resolved U= Unresolved

Qual (Qualification) SA = Same Aircraft, NSM=No Solution Manual, LR=Low Risk, CRM=Change Restricted Manual NSA=No solution automatic CRA=Change restricted automatic.

Conflict sub-set. Selecting a flight then selecting 'Conflict sub set' will open a window with all conflicts connected with the selected flight. This is designed to help in determining which flight to change when de-conflicting.

8.4.3 Conflict Pairs List

The global conflict screen is defaulted to display conflicts in a flight list. If the user wishes he can toggle to display the conflicts as pairs.

This can be useful if a small number of conflicts are selected according to overlap location using the filter area.

It gives similar information to the conflicts for selected flights screen.

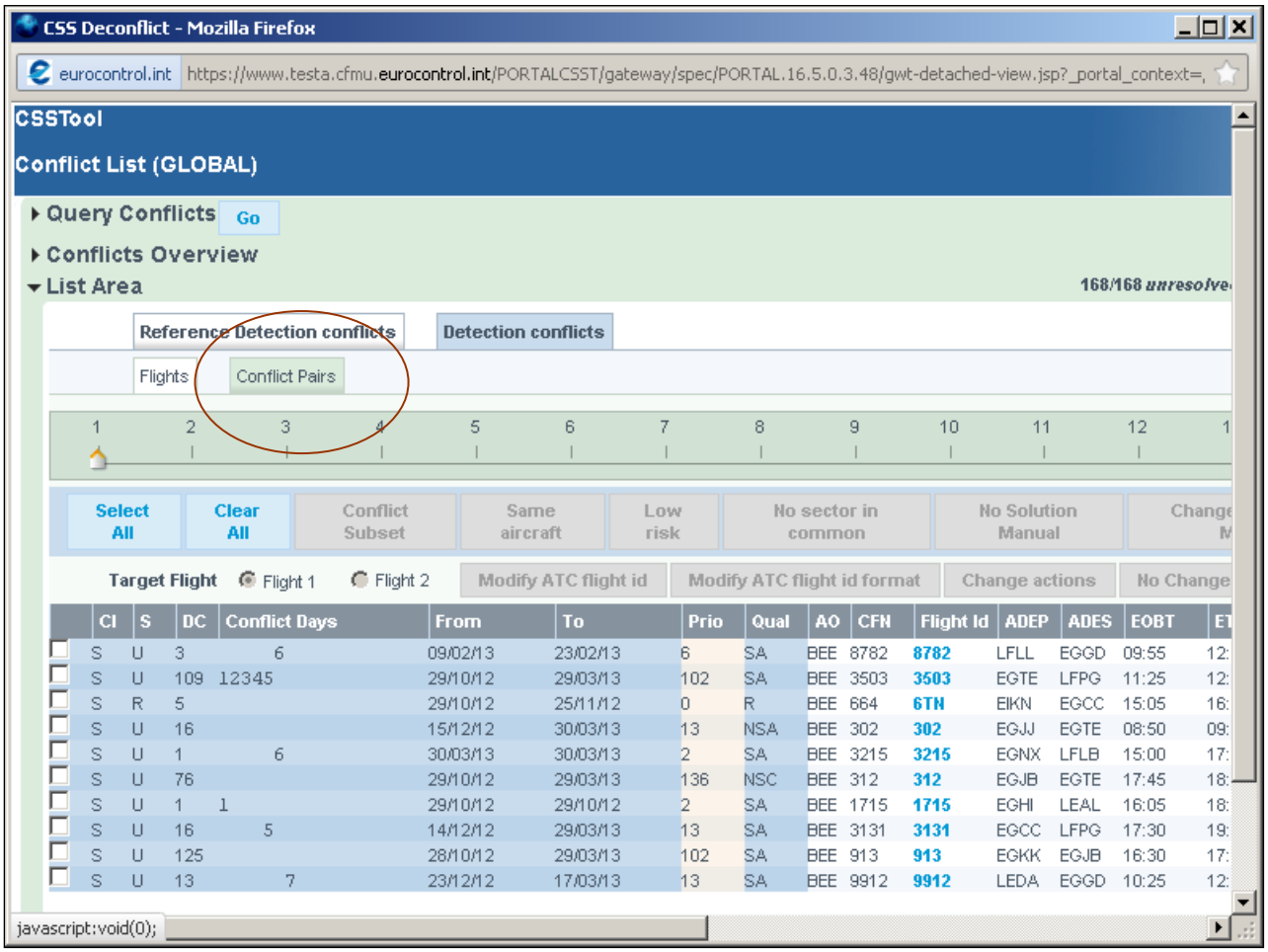


Figure 23 - Conflict pairs area

8.4.4 Qualifying and analysing Conflicts

Once a conflict is highlighted by the user in either the flight list, conflicts for selected flight/s or paired conflicts, several action/information buttons are available:

1. Modify ATC flight id

Opens the CSST de-confliction window (Manual, Semi manual and automatic de-confliction modes).

2. Modify ATC flight id format

This allows the users to fix the format of a Flight Id before using the de-confliction modes. The CSST will take the format into account and not change it when proposing solutions.

Lower case nn (for numeric values), upper case XX (for Alpha chars).

3. Change actions

This highlights a special action attributed to a Flight ID. Three letters are attributed:

- The CH column is tagged with an 'A' if the user has entered free text, which is then visible on querying the Flight ID in the schedule. For example subject overflight Ukraine
- The ch column is tagged with an 'N' if the user has qualified it as No Change
- The ch column is tagged with an 'F' if the user has applied the 'Modify ATC Flight format ' to the flight

4. Same id set

Shows flights with same id from the schedule. All these will be changed if the User changes the one in the Conflict List.

5. Overlaps

Identifies other flights, which overlap in time and space but are not in conflict. Used to assist in deciding manual solutions.

6. Conflict Details

Shows the details of the two flights in conflict.

7. Conflict Subset

Opens a new Conflict List ONLY with the PAIR selected (flight 1 and flight 2) a subset of the Conflict List depending on the selection - a reduced version of the Conflict List for easier reading.

8. Qualify

User selects from list UNPROCESSED, NO SOLUTION MANUAL and CHANGE RESTRICTED MANUAL.

9. Same aircraft

Add or remove the flight pair for selected flights.

10. Low risk

11. No sector in common

Add or remove the flight pair for selected flights.

12. Same id set

Shows all flights which will be changed if the target flight is changed.

INTENTIONALLY LEFT BLANK

9 De-confliction

9.1 Best Practice

Moving from commercial flight numbers to alpha-numerics can mean a big change in the operations and culture of an Aircraft Operator organisation. An internal information campaign and possibly the use of alpha numeric call signs in crew training simulations should be considered. A renumbering of the commercial flight number itself should also be considered before necessarily opting for alpha-numerics.

Aircraft Operators should aim to de-conflict the minimum number of flights in their schedule. This can be achieved by firstly marking those 'virtual' conflicts involving the Same Aircraft as 'SA'. Flights subject to change restrictions should be marked as No Change 'N'. A preferred method is to already have the next leg marked in the SSIM file or to make use of the 'Next CFN' column in the Excel schedule file.

De-confliction is carried out from the de-confliction screen. The screen is accessible after detection via two buttons:

- **Modify ATC Flight ID** accessible in the conflict list once one or several flights have been selected.
- **Autodeconflict** accessible directly from the view after detection is completed.

Three modes are available in the screen:

9.2 Manual Solution Mode

Manual solution is used for a single flight change.

Enter the solution manually in UPPER CASE in the solution box and click on GO. The CSST will check if the solution is conflict free.

The result is visible in the lower flight list window. The #C (number of conflicts) column indicates the number of conflicts remaining (or newly created) if the manual solution is applied. If the window is hard checked the third window is presented.

The third window details all conflicts resolved or unresolved if the manual solution is applied.

To apply the manual change click on 'confirm' and the global conflict list is automatically refreshed.

9.3 Semi Manual Solution Mode

Semi Manual is engaged when a single flight is selected for de-confliction.

The user can toggle between ATC format and range preferences and Transformation rule.

9.3.1 ATC Format and range preferences

Enter the required criteria such as range or format' and click on GO (see 5.4.4 for examples). The CSST will compute and propose up to twenty conflict free solutions.

Select one of the proposals and confirm. The ATC Flight Id modification is applied to the flight and the global conflict list is automatically refreshed.

If the User does not wish to accept the proposed solutions he can click on GO again and a different set of proposals will be presented.

Note that CSST does not accept the format nnnAA in Semi Manual mode(French Exception).

9.3.2 Transformation Rule

The user can also employ the Transformation rule in the solution settings. CSST will try to find solutions removing either the first or last digit and adding a letter. Where no solutions are found, CSST will mark them as No Solution Automatic (NSA). These can then be treated separately.

9.4 Automatic De-confliction Mode

This uses the same criteria as Semi Manual but is engaged when several or all flights are selected. CSST will not propose changes but will modify ATC Flight Ids directly in the schedule.

The user can elect to automatically de-conflict the complete schedule or select a set of flights for automatic de-confliction.

It is not recommended to perform autodeconfliction without assigning some minimum preferences.

Autodeconfliction takes into account any rule or format preferences that have been entered at the beginning of the workflow in AO or view setups.

Note that CSST does not allow automatic de-confliction using the format nnnAA (French Exception).

The user can undo de-confliction changes.

CSST may not be able to fully de-conflict the complete schedule due to limited solution space or constraints that have been introduced by the user (formats etc.).

Therefore, once the auto-deconfliction process is terminated there may still be remaining unresolved conflicts. These will be visible in the global flight list with qualification No Solution Automatic. The user will need to unqualify these if he wishes to change them manually.

9.5 Semi-Manual and automatic de-confliction solution settings

Default view of de-confliction window:

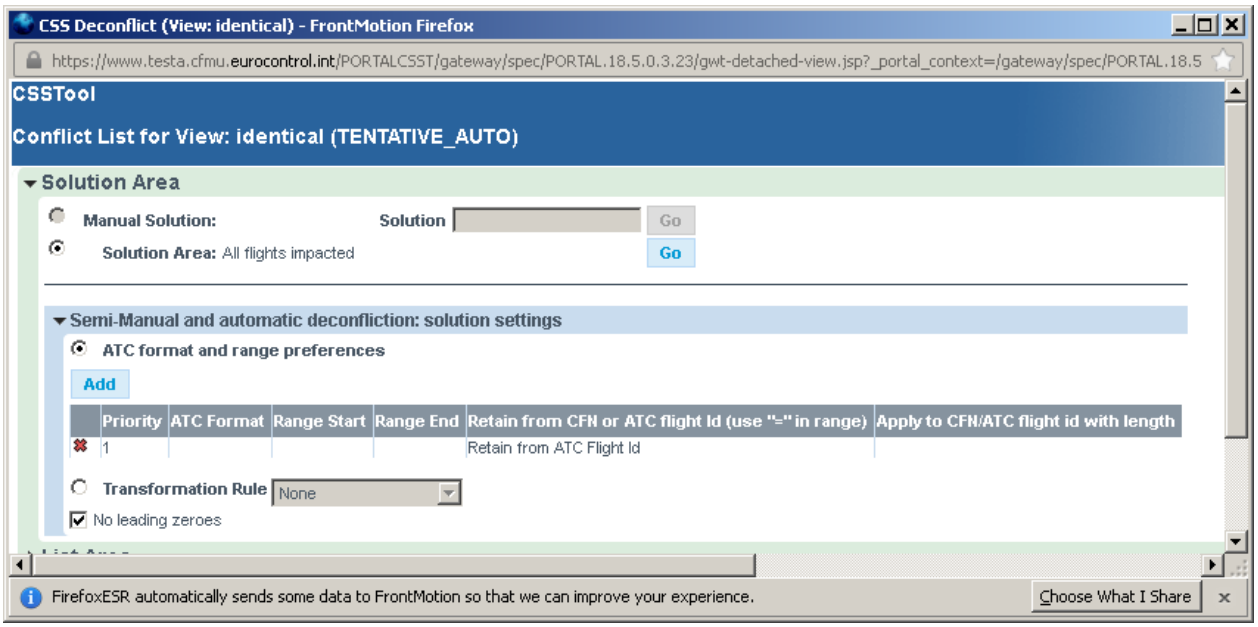


Figure 24 - De-confliction screen

If the user has no preferences for the format or range of solutions proposed by CSST the 'Go' button can be used directly. Once the workflow is completed the user should return to the global filter screen to check the results.

If the user has more detailed preferences for ATC format and the ranges to be used they should be entered according to priorities.

Priorities can be formulated using ranges and/or formats using numbers. letters or the special character"=" (to indicate that the digits/characters need to be retained).

The user can enter up to 5 priorities. Each priority could have several entries for example to delimit a range of letters (Example p1 nnA-nnK, p1 nnP-nnZ will exclude the letters M, N, O being proposed).

CSST will attempt to find solutions using the solution space offered by the priorities.

Example using CFN 123: 'Range start 11A' 'Range end 99Z'.

CSST solutions in this case will be first digit range 1-9, second digit range 1-9 and third character range A-Z.

Example using CFN 123 retaining first two digits: 'Range start ==A' 'Range end ==Z'.

CSST solutions in this case will be 12A-12Z.

Input Example1 User preference is to apply solutions using format nnAA only to flight IDs with length 4:

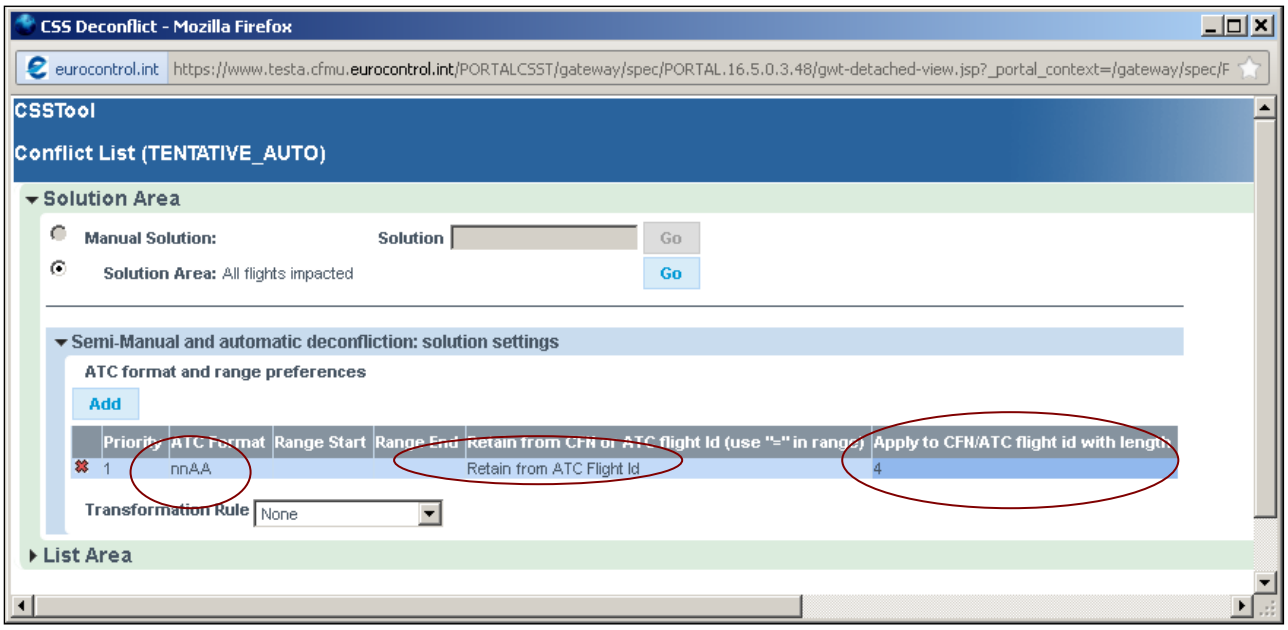


Figure 25 - User preferences prior to autodeconfliction

Example2 User preference has 2 priorities. Priority 1 is to apply format nnAA to Flight IDs. If this does not offer enough solution space then priority 2 is to apply format nnnA:

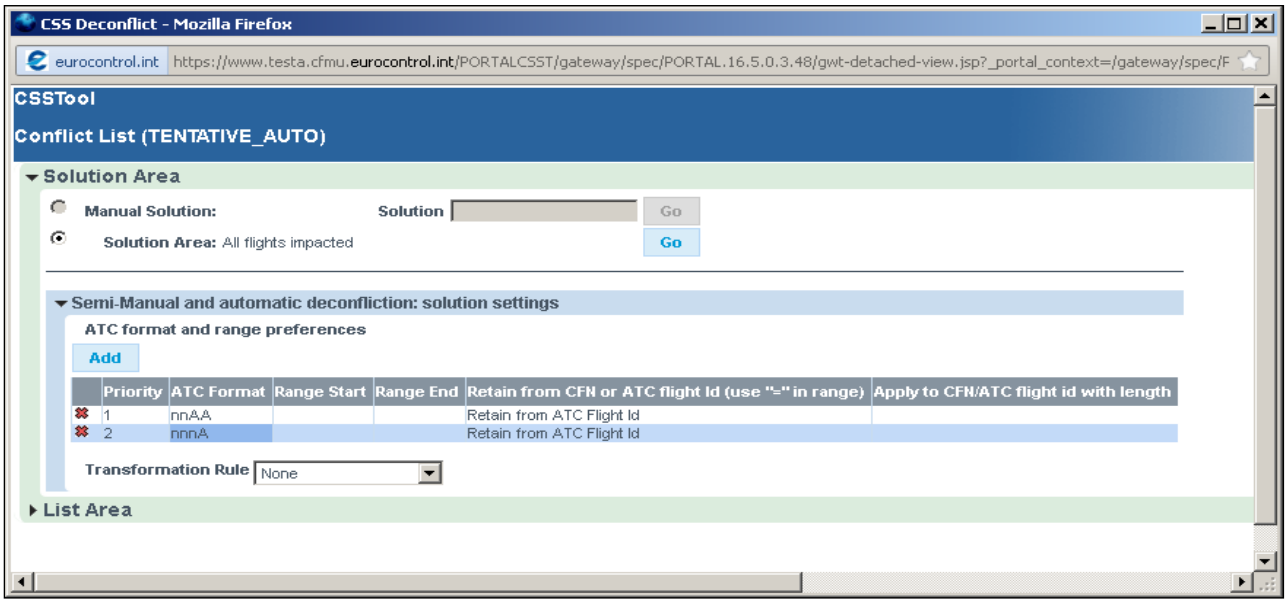


Figure 26 - Using priorities in de-confliction preferences

If preferences and priorities are used then CSST will only use these when proposing solutions. Conflicts, which could not be resolved during autodeconfliction using the preferences and priorities, will remain unresolved with qualification No Solution Automatic (NSA). In this case, the user is invited to repeat the process using different formats or preferences.

10 Set Up Management

This area has two functions.

1. CSMC maintain the Environment data, Detection Rules and Buffer times associated to each IATA season. These compose the Reference Settings for Detection and De-confliction.
2. The 'AO Supervisor' user can employ this area to set rules and buffer time preferences, which will apply to all views created by the user AOCC.

The set ups consist of two areas:

10.1 Build Set ups

- ATC AO Designator (allows override of the ICAO code mapped from the IATA table).
- Leading zeroes policy
- CFN Suffix policy
- Call Sign Maps

10.2 De-confliction set ups

- Buffer Times
- AO Similarity Rules

To use the Set Up area, connect to CSST and select Set Up Management:

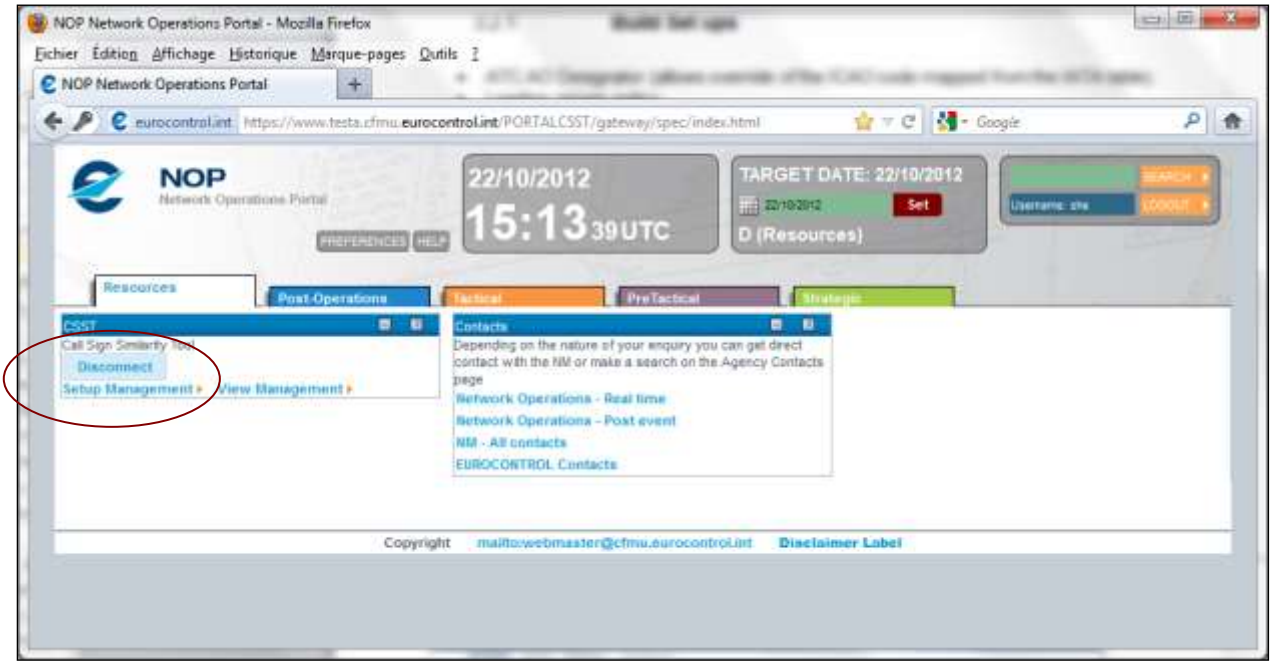


Figure 27 - Setup Management area access

Select the IATA season for which the set ups are to be applied:

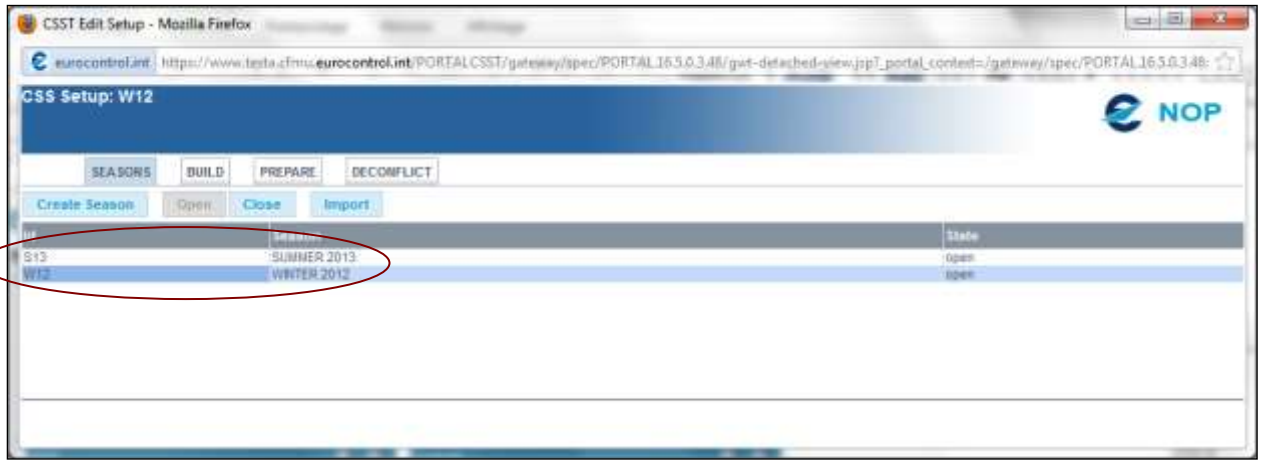


Figure 28 - Season selection

10.3 Build Set Ups

Enter the Build Set Ups:

Figure 29 - Build Set ups access

Then click on AO Set Ups to reveal the 4 options:

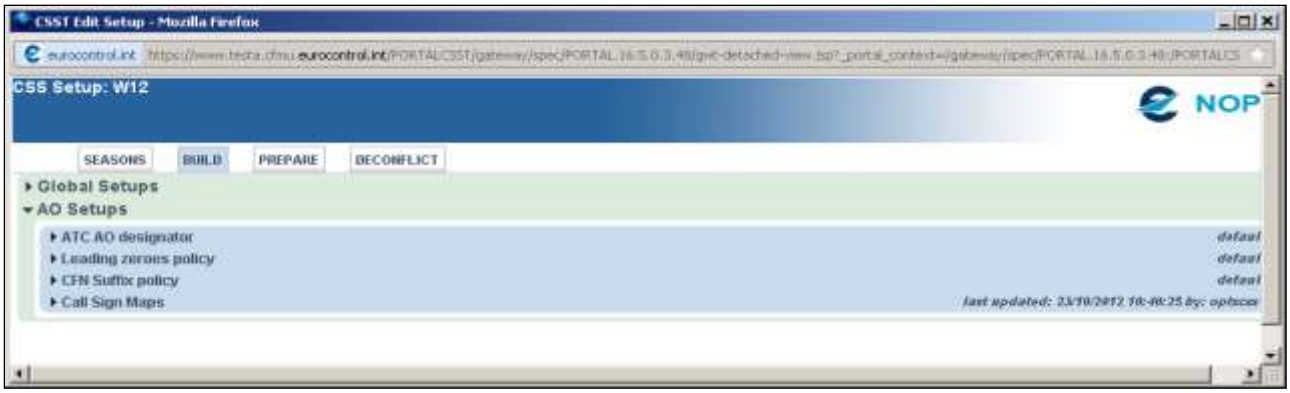


Figure 30 - Options available under AO build set ups

10.3.1 ATC AO Designator

Used to override the normal mapped ICAO 3 letter code which will appear in the CSST workflow and output. Enter the code and click on Save. Individual views can however ignore this when override is ticked (default).

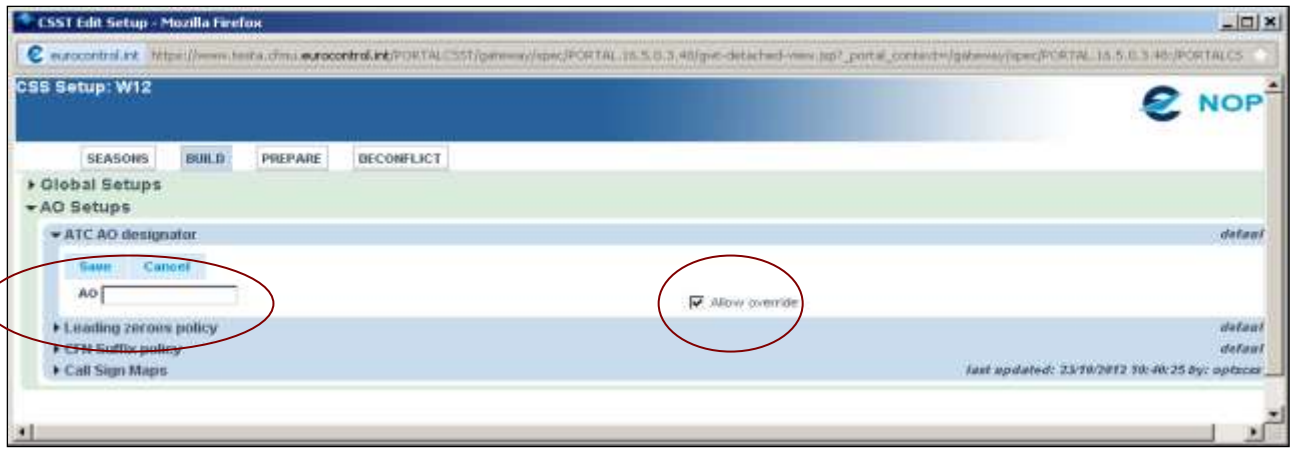


Figure 31 - ATC AO designator

10.3.2 Leading Zeroes Policy

Here the User can determine his policy on using leading zero's in the Flight Id. By indicating the minimum length of the Flight Id (1-4) the number of leading zero's output in the Flight Id is determined. For example CFN 0009 becomes Flight ID 09 if leading zero policy '2' is ticked. If the user does not want to use leading zeroes at all then '1' should be ticked.

Do not forget to save.

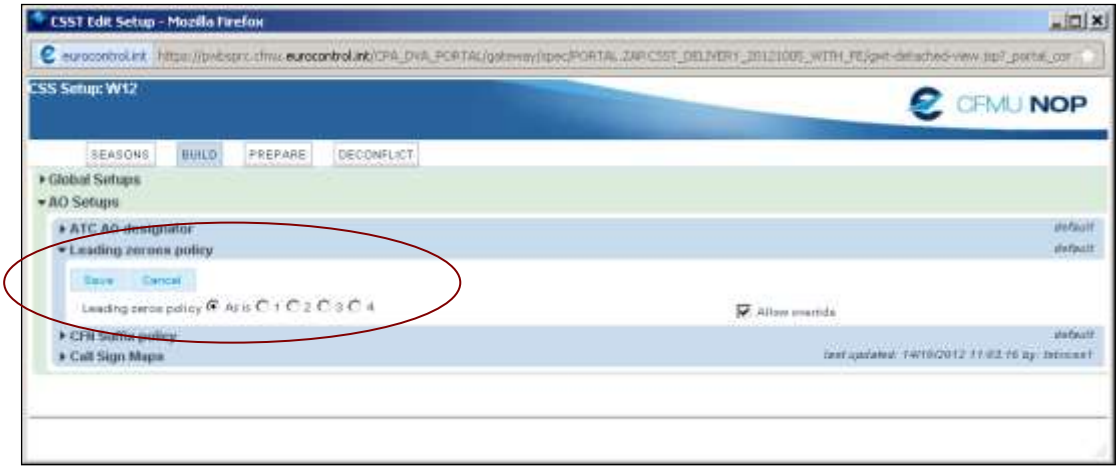


Figure 32 - Leading zero policy

10.3.3 CFN Suffix Policy

Some AO append a suffix to the CFN in their commercial schedule. This denotes for example positioning or training flights.

The CFN suffix policy allows the AO to determine whether CSST will use this suffix in the Flight ID.

The default setting is 'USE IF POSSIBLE'. Depending on the length of the CFN CSST will try and use suffix.

Example if CFN 910 has suffix 'P' in the SSIM schedule, CSST will initialize 910 as Flight ID 910P.

The AO should select an alternative policy and save if he wishes to override this default setting.

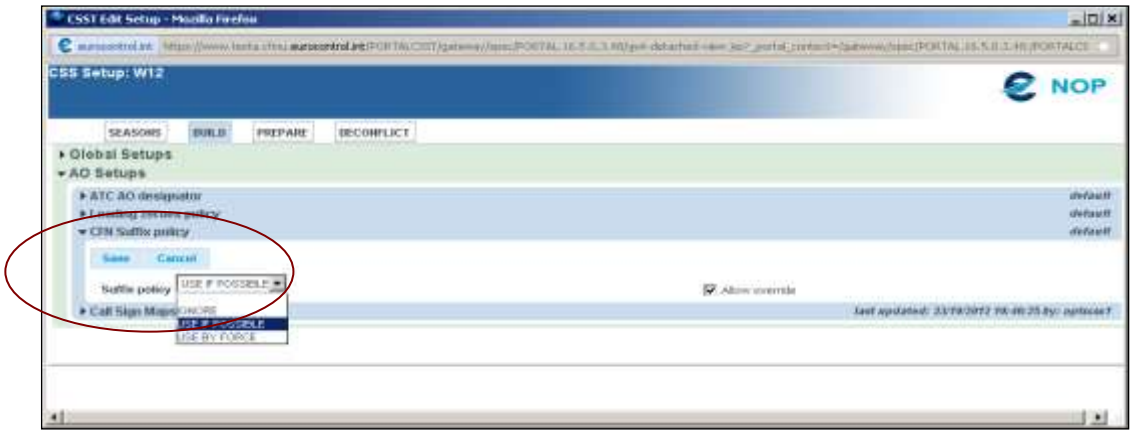


Figure 33 - CFN Suffix policy

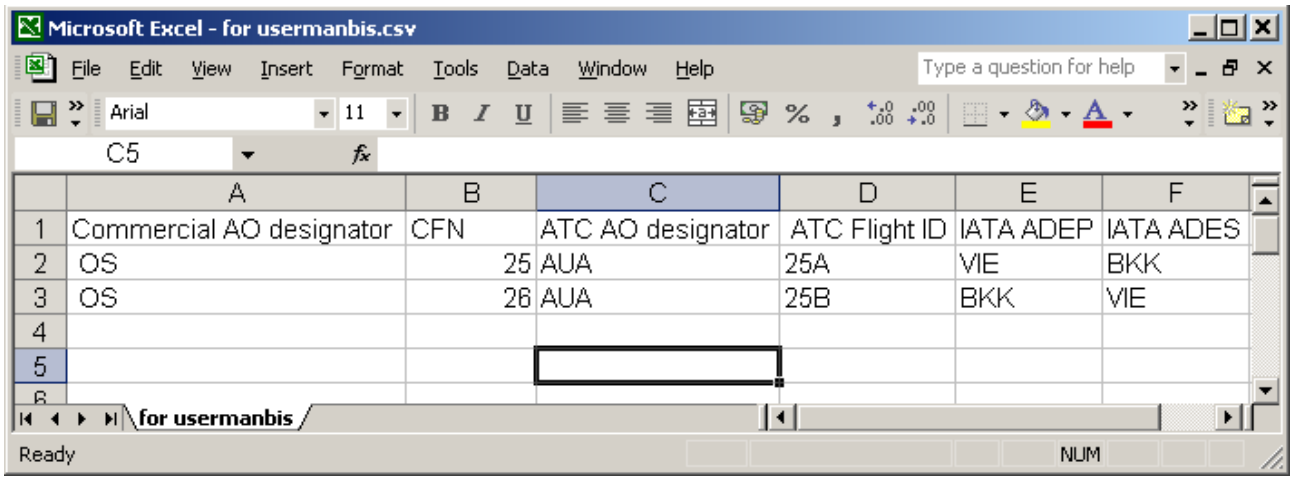
10.3.4 Call Sign Maps

Allows the AO to upload Call Sign Maps (mapping of Flight ID to CFN) and to designate the active Call Sign Map. This will be applied to all views for that season unless override is used in view Set Ups. (See ANNEX2 for procedure).

A Call Sign Map can be created manually by the user or downloaded from CSST once a schedule has been uploaded.

A manual Call Sign Map can be xlsx or .csv format.

The mandatory columns are: Commercial AO designator, CFN, ATC AO designator, ATC Flight ID, IATA ADEP, IATA ADES (or ICAO ADEP, ICAO ADES or both).



	A	B	C	D	E	F
1	Commercial AO designator	CFN	ATC AO designator	ATC Flight ID	IATA ADEP	IATA ADES
2	OS	25	AUA	25A	VIE	BKK
3	OS	26	AUA	25B	BKK	VIE
4						
5						

Figure 34 - Manually created all Sign Map

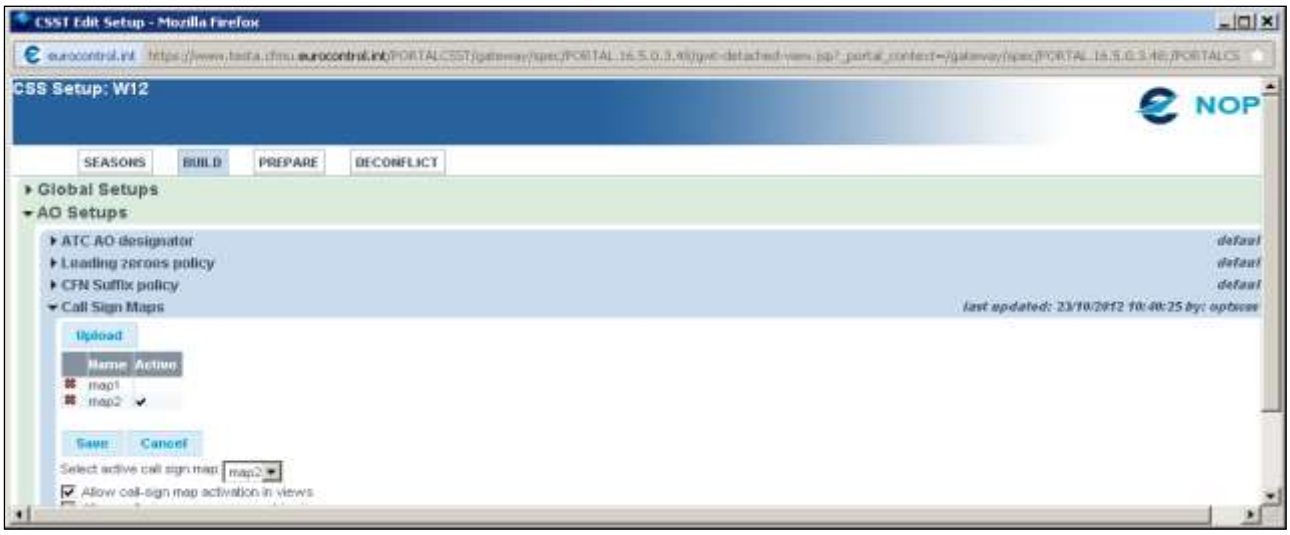


Figure 35 - Call Sign Maps

10.4 De-conflict Set Ups

Select the IATA season for which the set ups are to be applied:

Figure 36 - Season selection

Click on De-conflict and AO Set Ups:

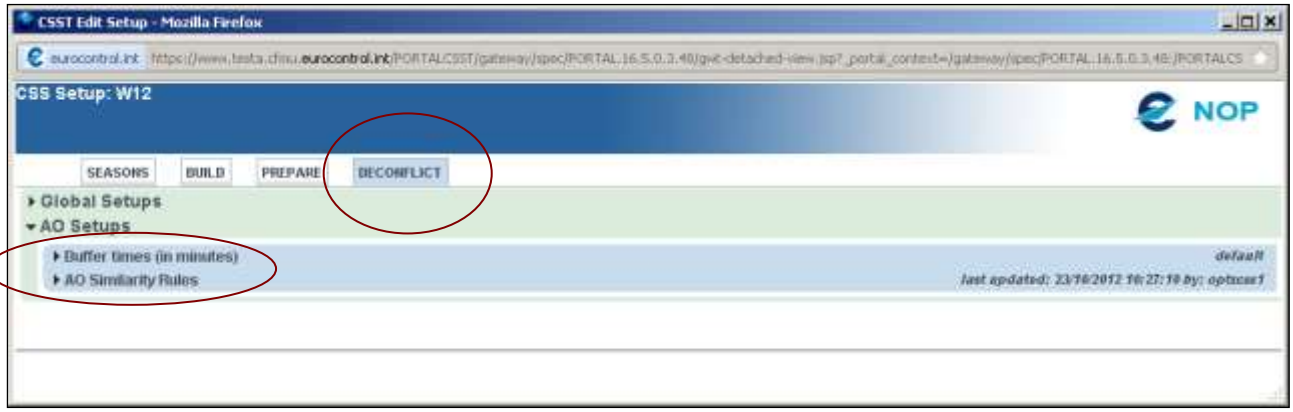


Figure 37 - AO Set ups in De-conflict area

10.5 Buffer Times

Select buffer times to open the editing window.

The default settings can be modified within the minimum and maximum values.

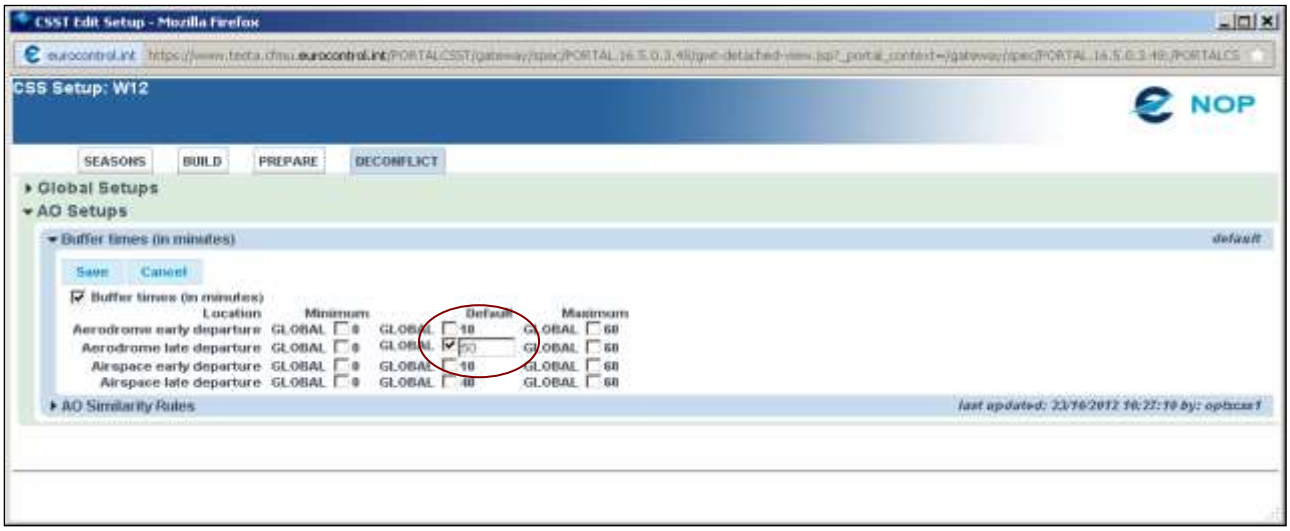


Figure 38 - Buffer times edit area

10.6 AO Similarity Rules

Select AO similarity Rules to display the existing rules.

The AO can create rules and delete rules that the AO has created. The AO cannot delete rules created by CSMC but he can deactivate them.

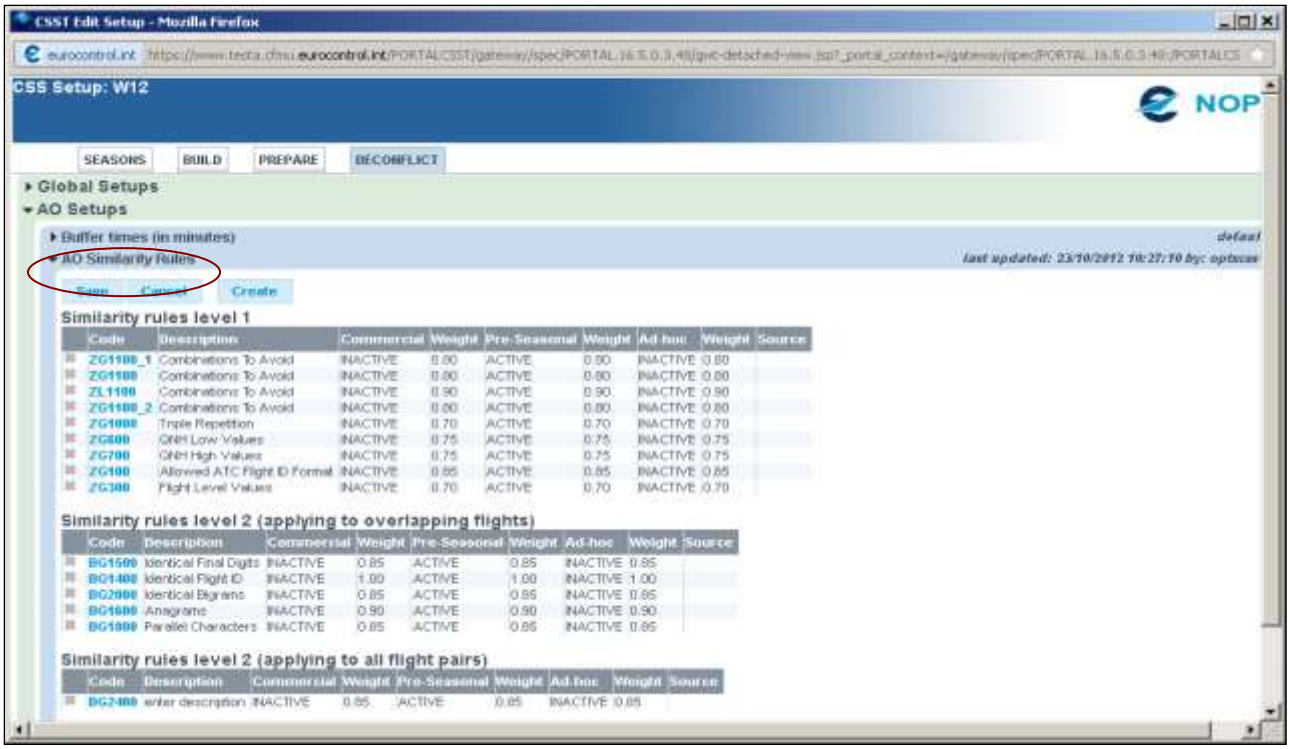


Figure 39 - Display of AO similarity rules

10.6.1 Creating a Rule

Here the example used is the rule 'COMBINATIONS TO AVOID'. This rule is commonly used to exclude certain digit or letter combinations. From the rules list click on Create:

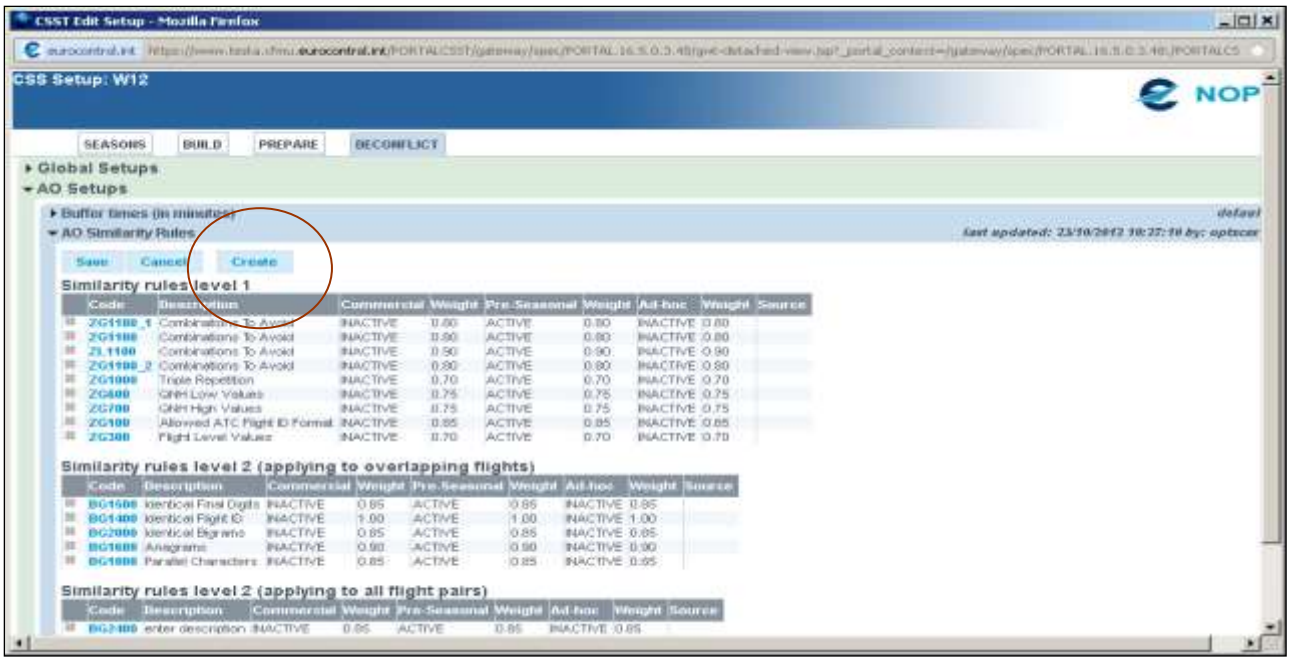


Figure 40 - Create rule button

Sort the sub set window list alphabetically by clicking on the header 'ID'.

Select the COMBINATIONS_ TO_ AVOID and click on 'Create selected rule type'.

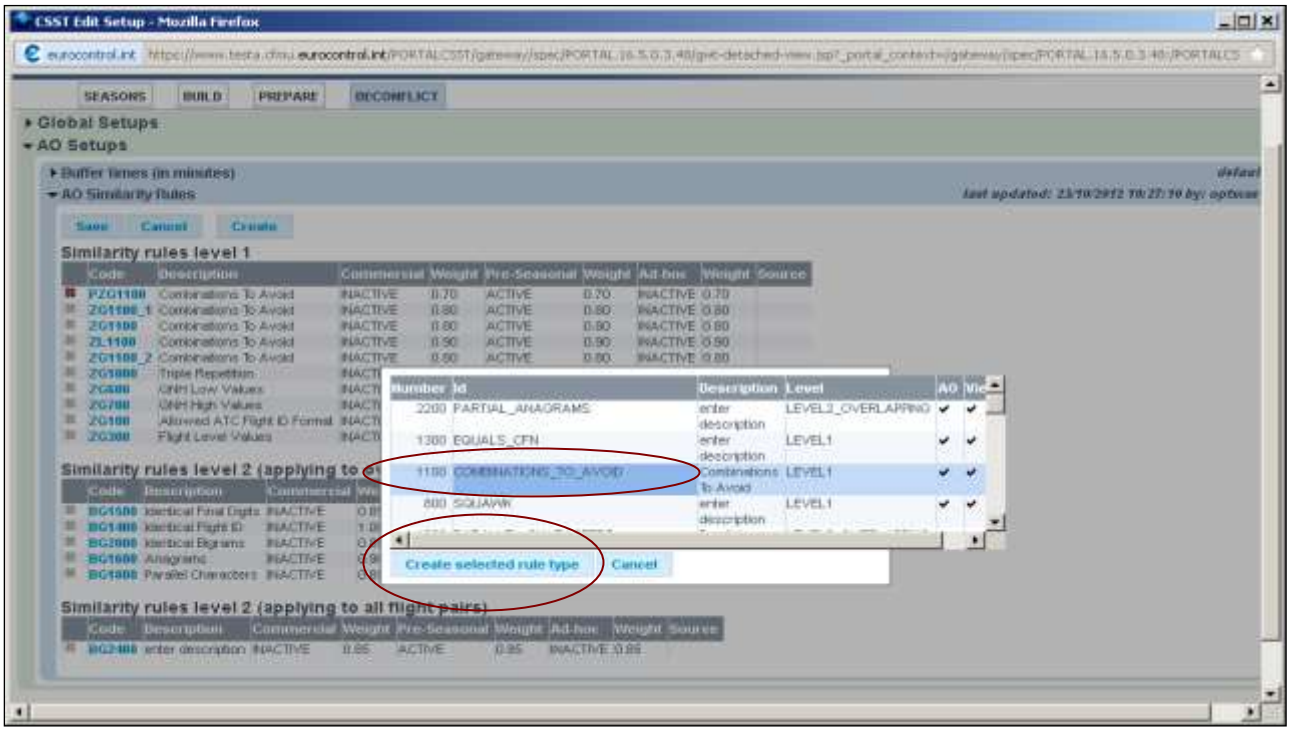


Figure 41 - Selecting a rule then select create button

In the upper part of the rule window select the labelling and text as below (this part is to be semi -automated in a future software release).

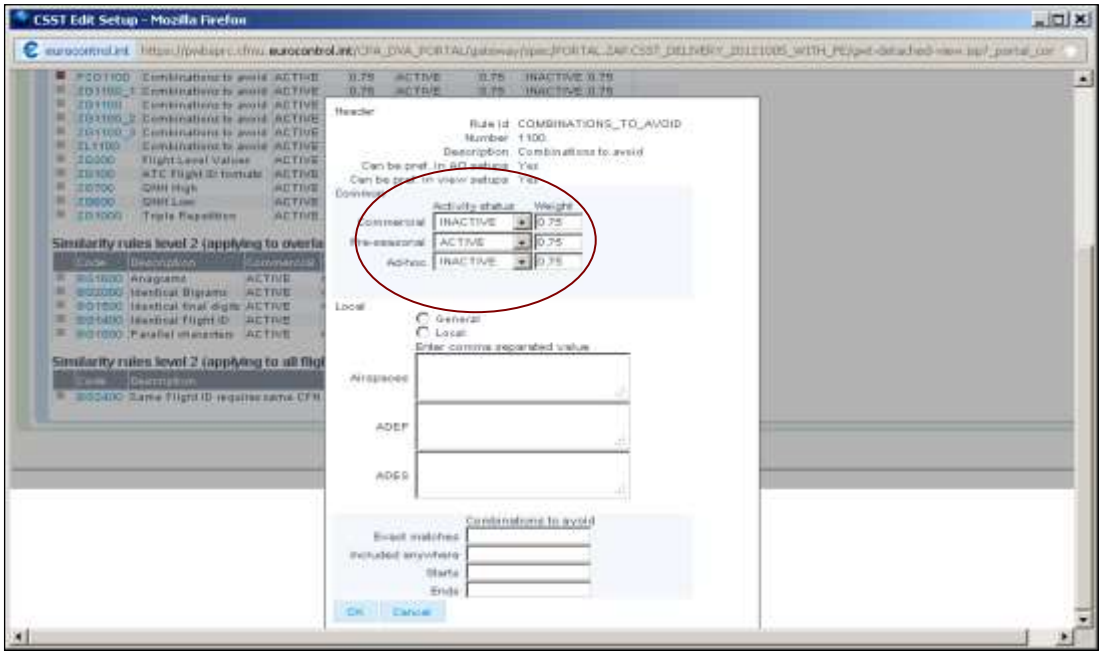


Figure 42 - Inserting mandatory items to the new rule

The user can now enter his combinations to avoid. They can apply 'Generally' (to all flights in the schedule) or 'Locally' to an aerodrome or airspace. Here wildcards (*) can be employed.

The combination can be an exact match, include anywhere, start or ends.

For example to ensure that CSST captures flights in the schedule ending in the letter 'M' and does not propose Flight Ids in letter M during de-confliction:

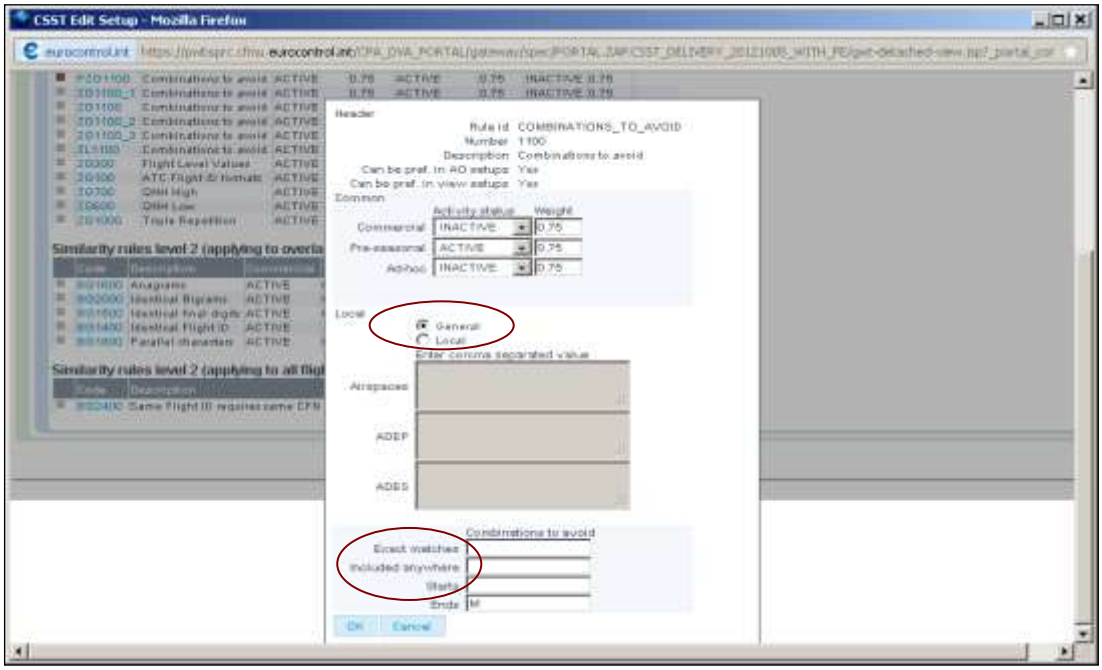


Figure 43 - Defining the rule behaviour

If the user only wants the rule to apply to flights in for example Spanish airspace then Local should be selected and LE* entered in the airspace box:

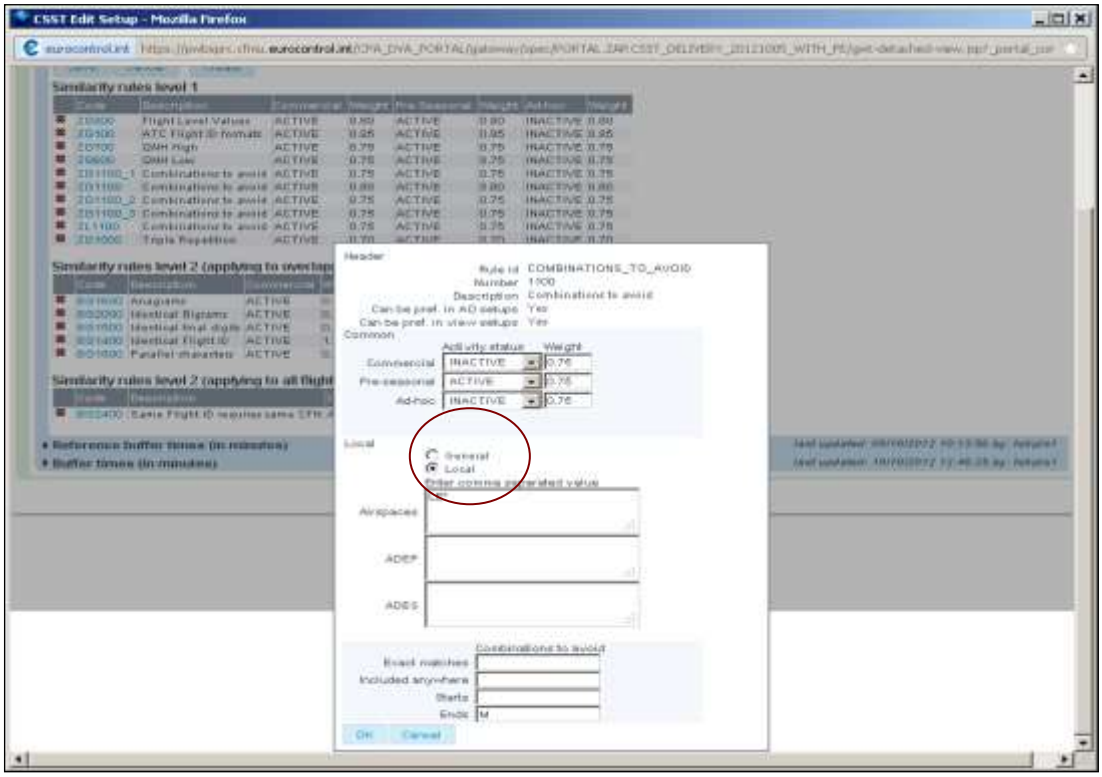


Figure 44 - Defining a local rule behaviour

Multiple entries can be made in the 'combinations to avoid box' using comma separator but only one box should be used with each rule:

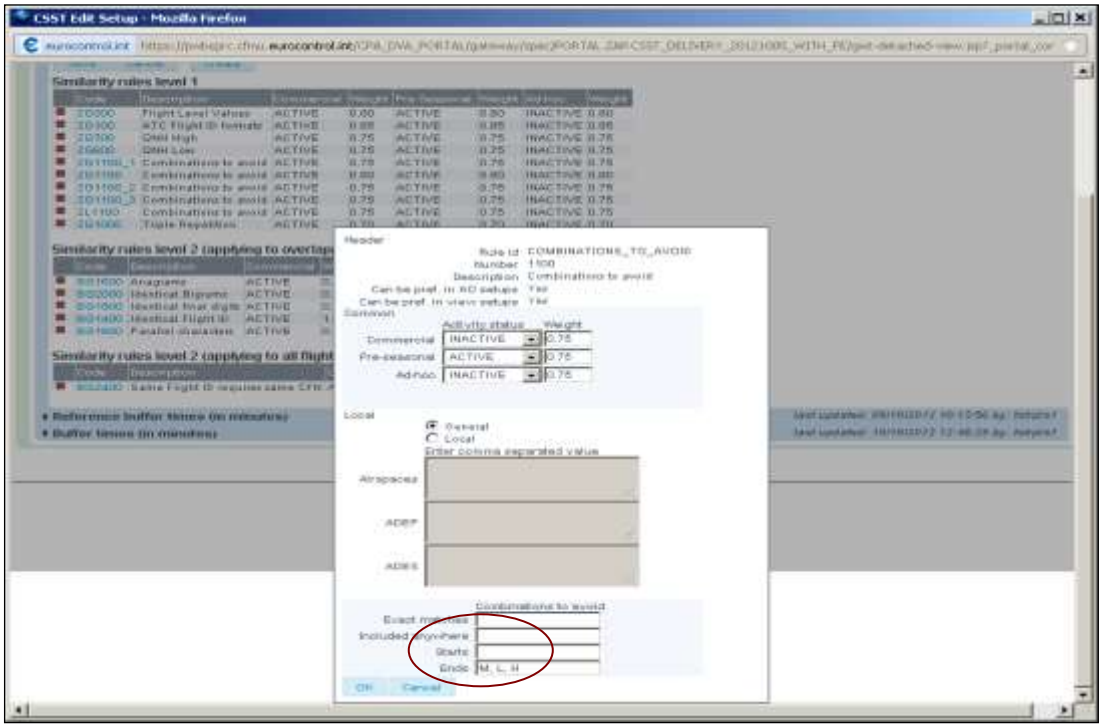


Figure 45 - Entering multiple entries in combinations to avoid text box

Once the user has entered the rule details click on OK.

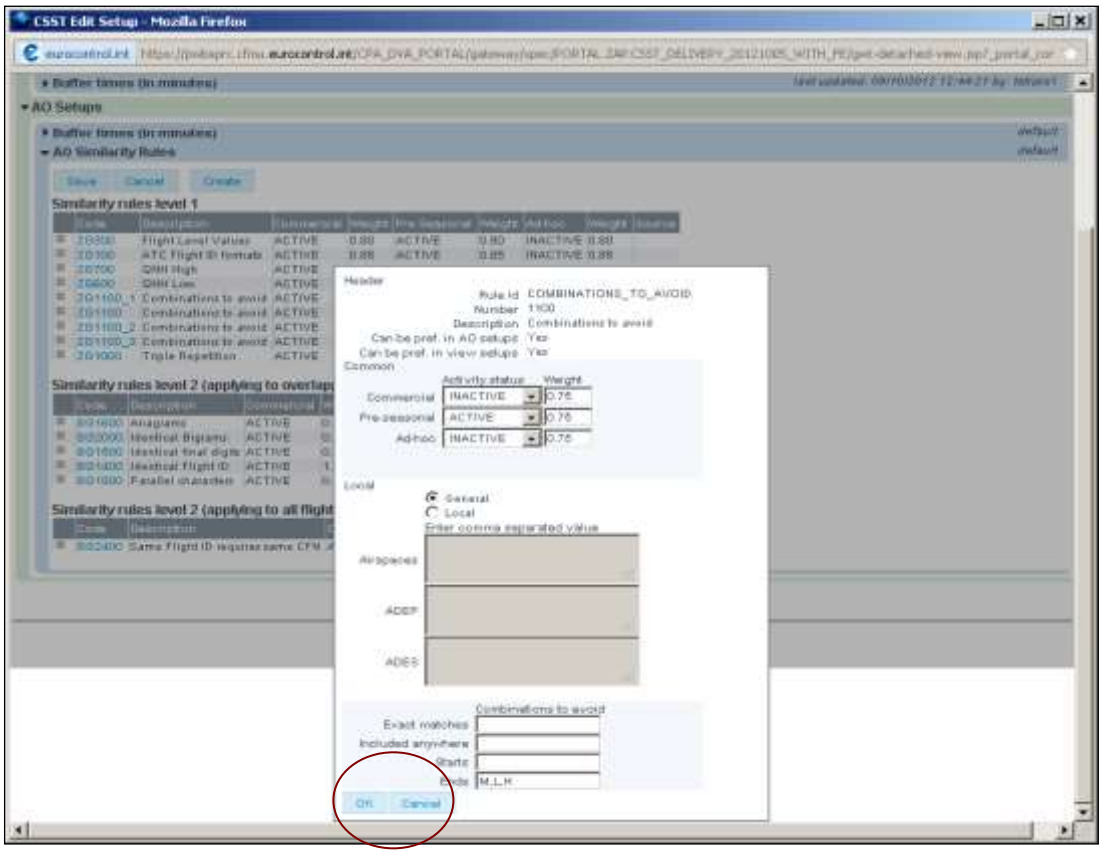


Figure 46 - Click on OK after entry of rule requirements

Click on 'Save' and the created rule is now added to the list of AO rules. This is now the list of 'Detection' rules which will be applied to all views created by the user. The rule can be deleted by clicking on the red cross.

Remember that Setup (rules and buffer times) can also be changed in each individual view created but they will only apply to that specific View (see view Set Ups).

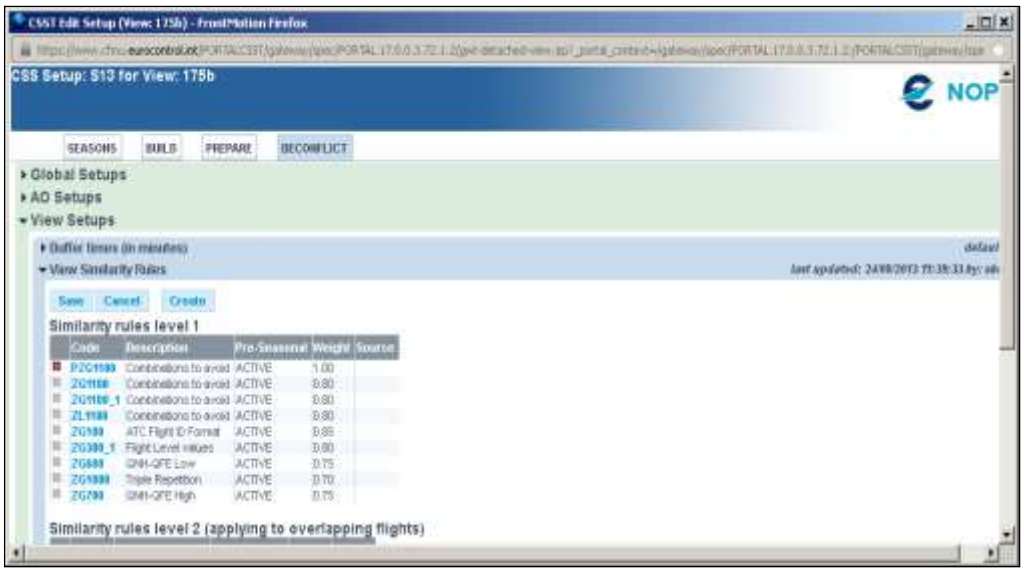


Figure 47 - After Save the rule appears annotated with a red cross

11 Additional Functions

11.1 Undo CFN/Flight ID changes

The user has the possibility to undo changes made to Flight ID's. The undo function will revert the 'Flight ID' back to its 'Original Flight ID'.

The function can be used after Manual/Semi-Manual or Automatic De-confliction of flights.

~~11.2~~11.1.1 Procedure to undo CFN/ATC Flight ID changes

Undo can be carried out by selecting flights from the global Flight list window or from the View workflow window using the 'undo CFN/ATC Flight ID button. If the user wishes to undo one or two Flight ID's then the Flight list window should be used. If all changes are to be undone then this is best done from the View workflow window.

View Workflow window

Click on the undo all CFN/ATC Flight ID changes.

Acknowledge by clicking on Apply.

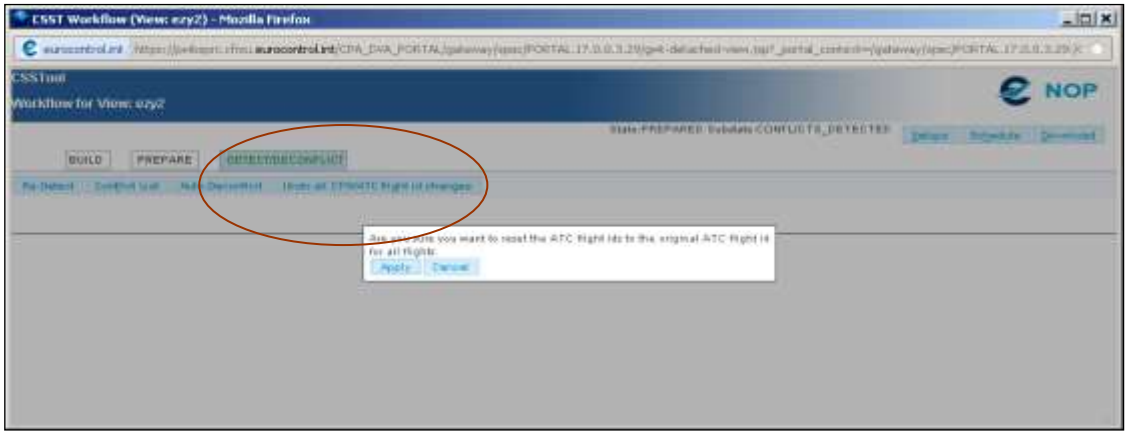


Figure 48 - Undo changes button

Once the undo is complete the user is advised if the setups have been changed or not (in which case the user should do a redetection).

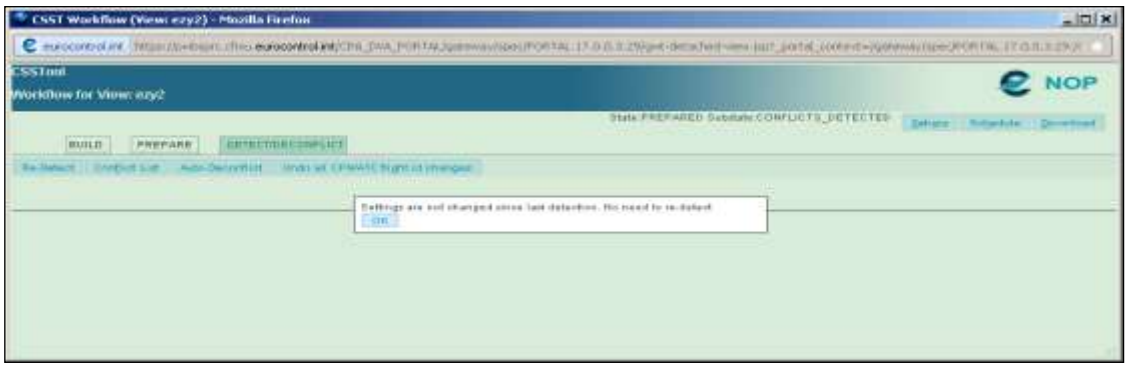


Figure 49 - Undo changes completed

The user should then return to the conflict list which now reflects the original state of the selected Flight Ids.

~~11.3~~11.2Download Options

Depending on the view state, the user can use the download function to output on demand four types of t files in either xlsx or csv format. The downloaded data always corresponds to the latest view state.

1. Schedule file

Accessible regardless of the view sub-state. Downloads all flights in the schedule.

2. Call-sign map

Accessible regardless of the view sub-state. The download maps ATC call-signs of a schedule to the CFN.

3. CFN map

Only accessible if the view sub-state is strictly beyond PREPARED. The download maps old CFN of the schedule to the new CFN.

4. Conflict list

Only accessible if detection has been completed. The download contains all conflicts in the schedule (resolved and unresolved).

From the view select Download;

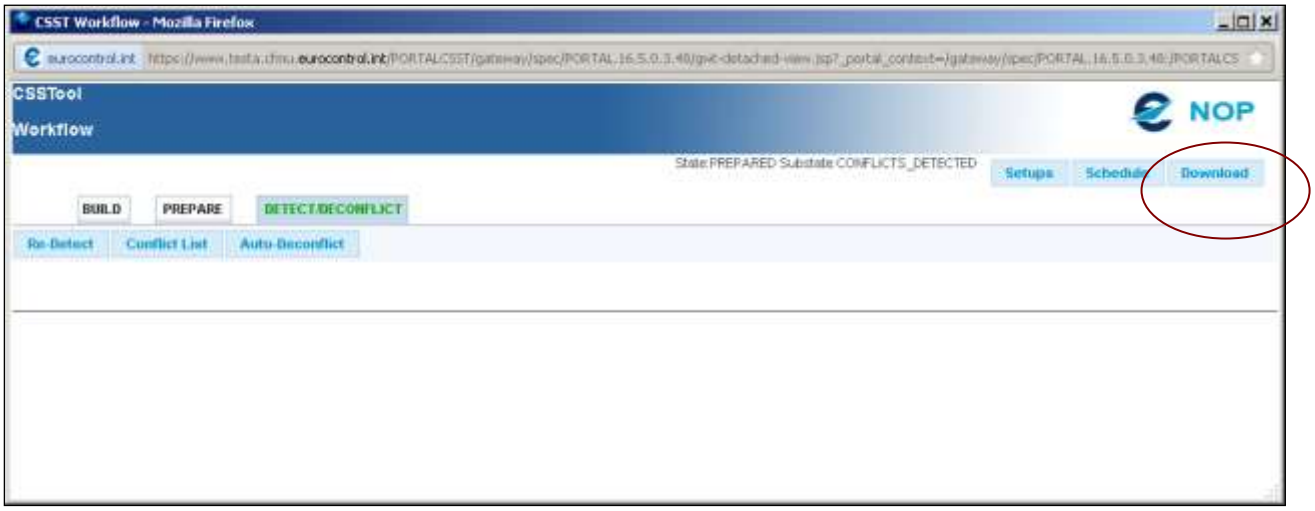


Figure 50 - Download options button

Select the file to download. For the conflict list the user can select according to Reference or

Detection settings:

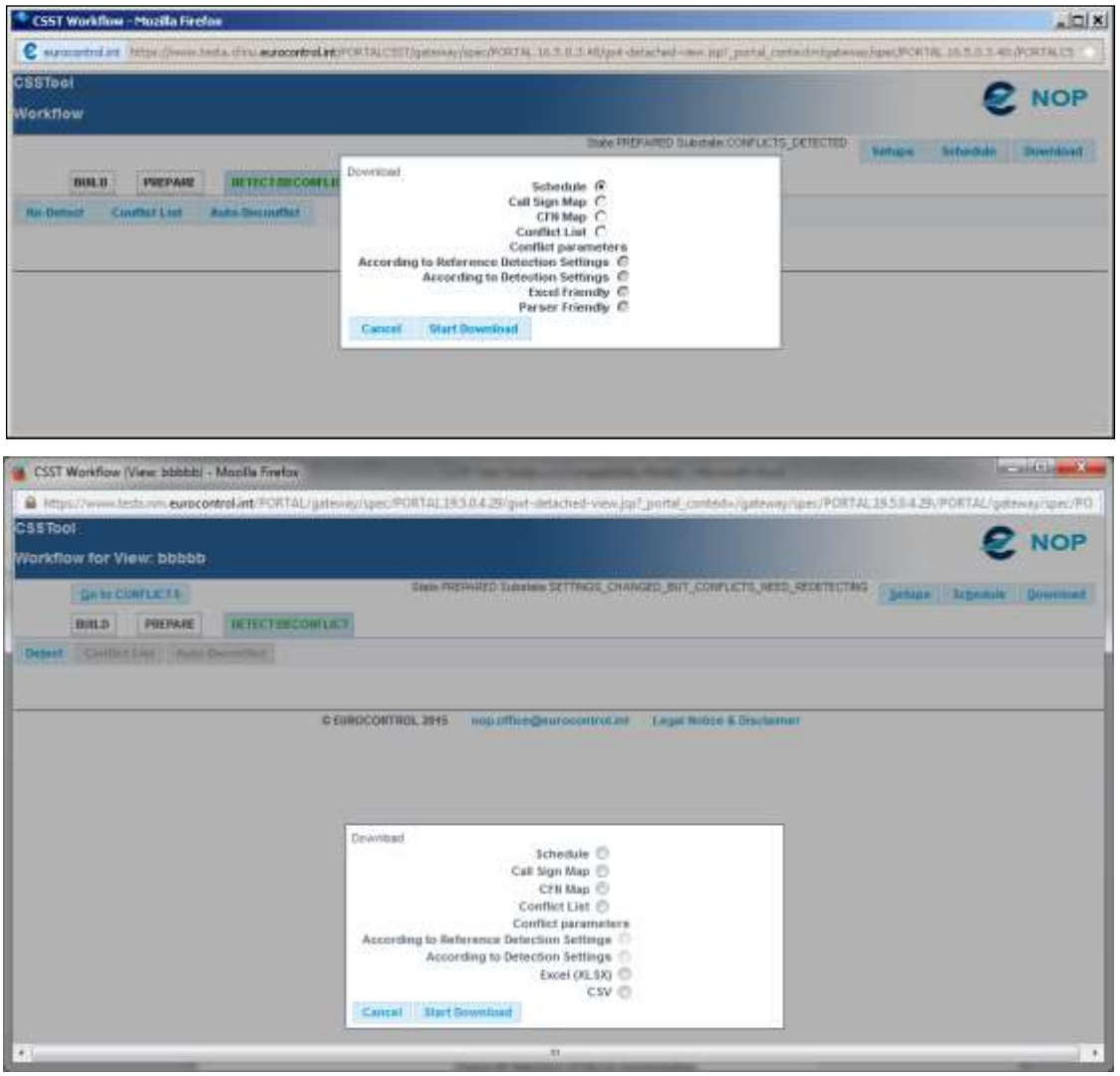


Figure 51 - Selection of file for downloading

Open or save the file:

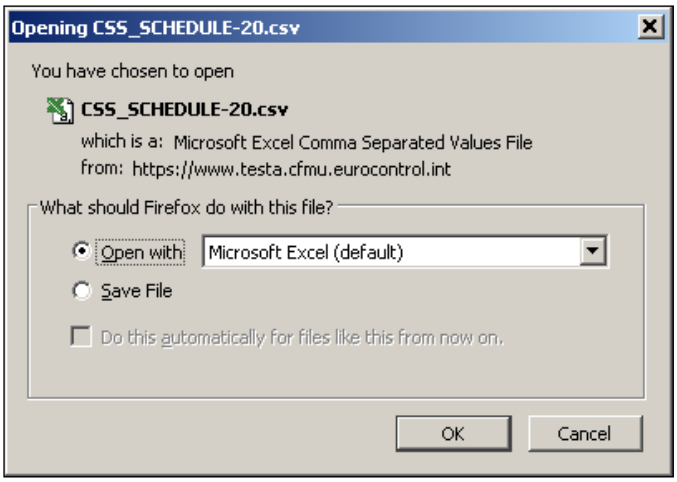


Figure 52 - Download completed with choice to open or save

Once completed click on Yes or No to restart the download.

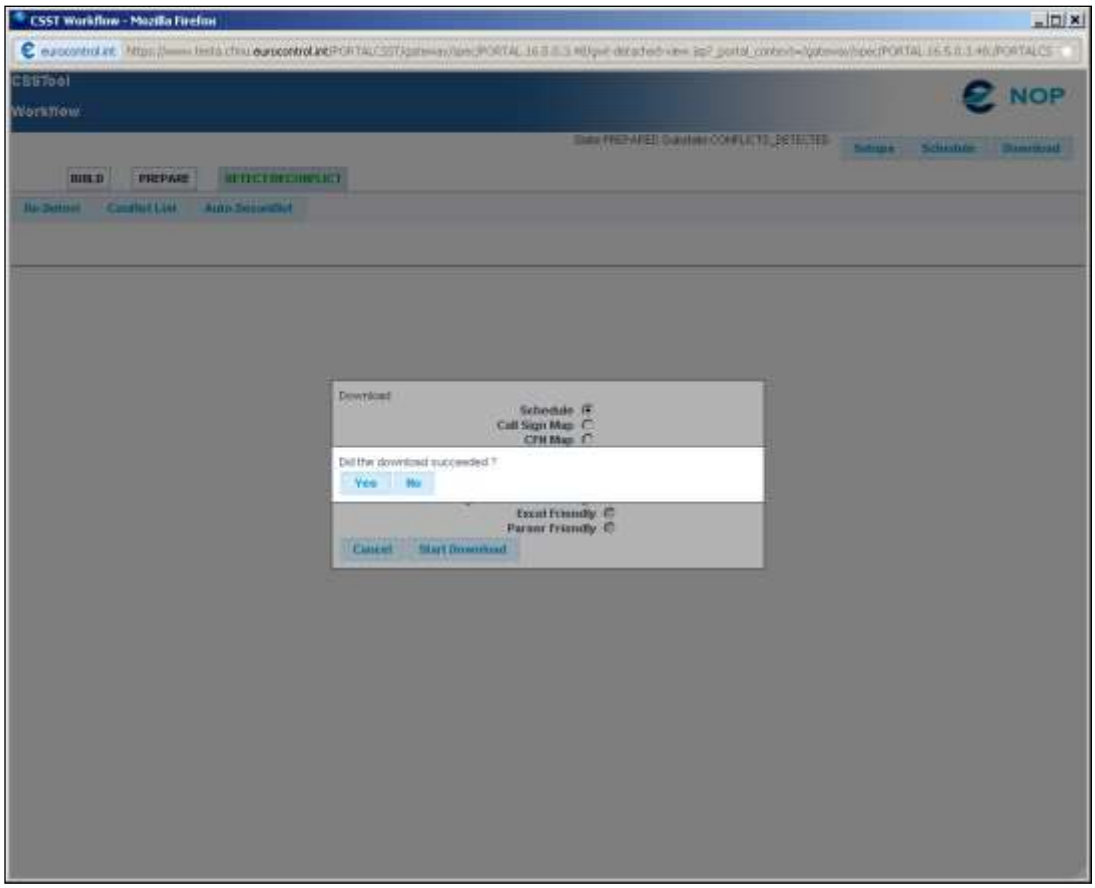


Figure 53 - User confirms success of download or restarts

~~11.4~~11.3 View flights which have been changed

The user can see which flight ids have been changed by filtering the downloaded Call Sign Map (For downloading see 8.2).

From the downloaded Call Sign Map engage the Excel AutoFilter function and filter the column 'Original ATC Flight ID' for non-blanks. This will indicate changed flights. Filtering on blanks will list unchanged flights.

J1 (S13) Original ATC flight id

	A	B	C	D	E	F	G	H	I	J	K	L
1	Comme	CFN	CFN suf	ATC AO	ATC flig	ICAO AI	IATA AD	ICAO AI	IATA AD	(S13) Or	nal ATC flight id	
87	BE	196		BEE	345T	EGBB	BHX	EGNS	IOM	1LR		
397	BE	491		BEE	365Y	EGPH	EDI	EIKN	NOC	6TK		
609	BE	795		BEE	7TY	EGPF	GLA	EGBB	BHX	7WX		
1054	BE	7113		BEE	67MY	EGBB	BHX	LIMC	MXP	2BN		

Figure 54 - Using Call Sign Map to filter flights changed

~~11.5~~11.4 Deleting views

The user should limit the number of views prepared in CSST. This will keep to a minimum the number of data tables created in the database. Failure to do this can impact CSST performance for all users.

To delete a view, click on the ✖ symbol next to the view name in the view list:

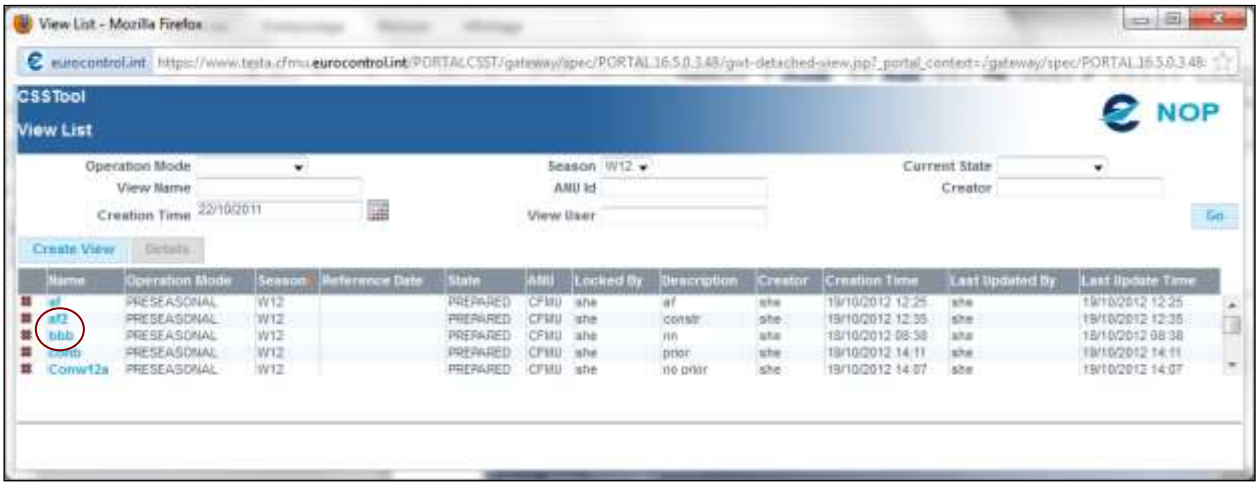


Figure 55 - Deleting a View

Click 'Yes' to confirm the deletion:

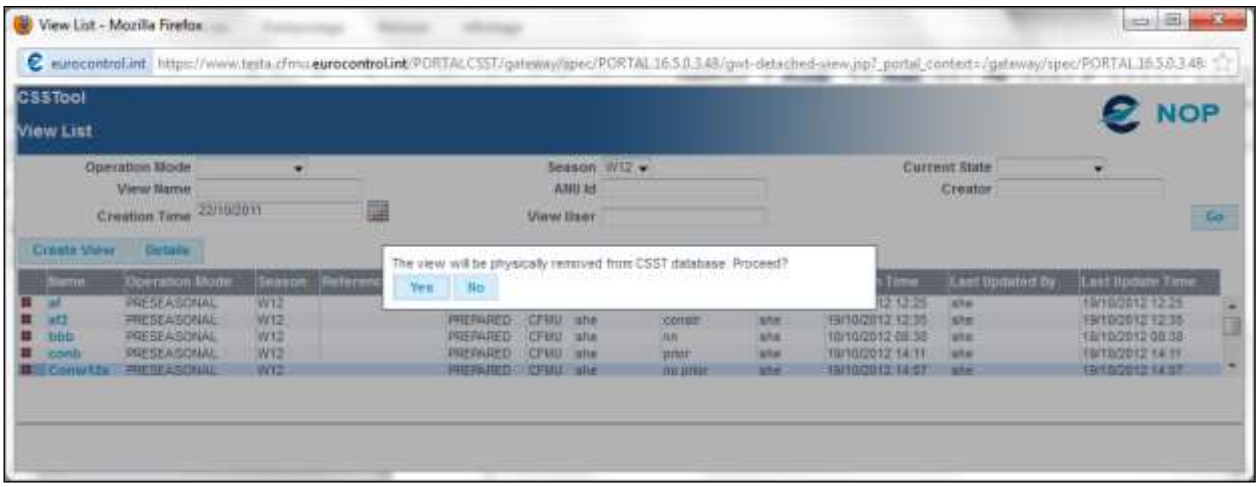


Figure 56 - Confirm deletion of View

If the view is not locked, or the logged-in user is not the owner, it will be necessary to click on view details and override the lock before deleting the view.

Once deleted, a view cannot be retrieved.

11.5 Flag View as ready for Cross AO check

The Call Sign Management Cell (CSMC) carry out limited cross AO similarity checks. When requested by CSMC, the CSST User can indicate a schedule View as being in a state ready for a cross AO check.

The schedule view must be in state PREPARED (so conflicts detected) to be indicate it as Cross AO Ready

The user should highlight the view by clicking anywhere along the view information line then click on the Cross Ao ready button.

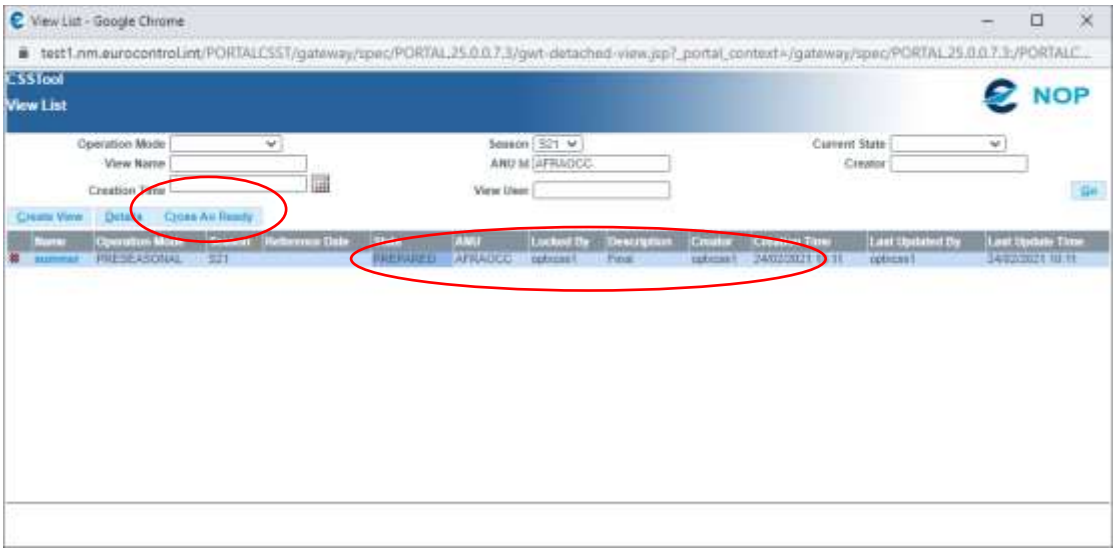


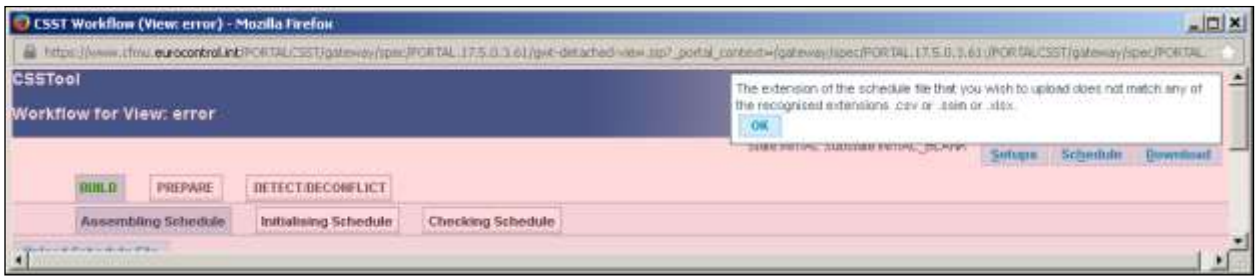
Figure 57 Highlight View and click on Cross AO Ready

12 Error Messages

12.1 Schedule Upload Errors

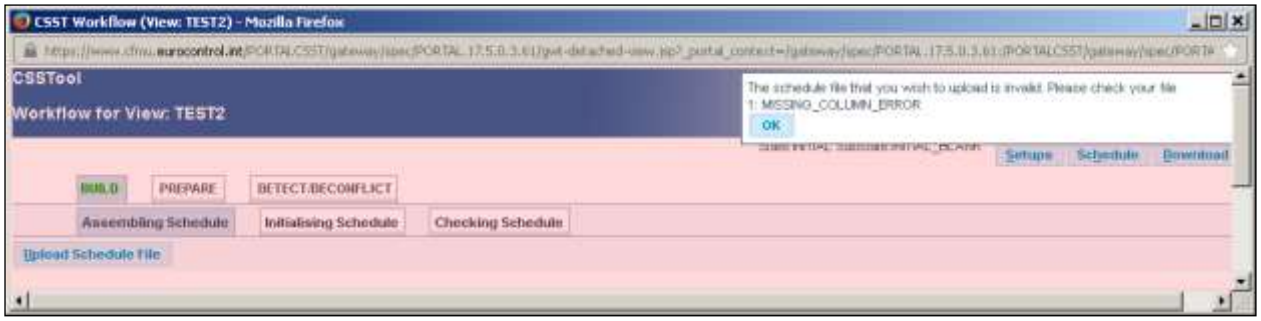
Schedule file does not have extension xlsx, csv or ssim

The schedule file must have extension .xlsx .csv or .ssim



Schedule File has Missing Mandatory Column

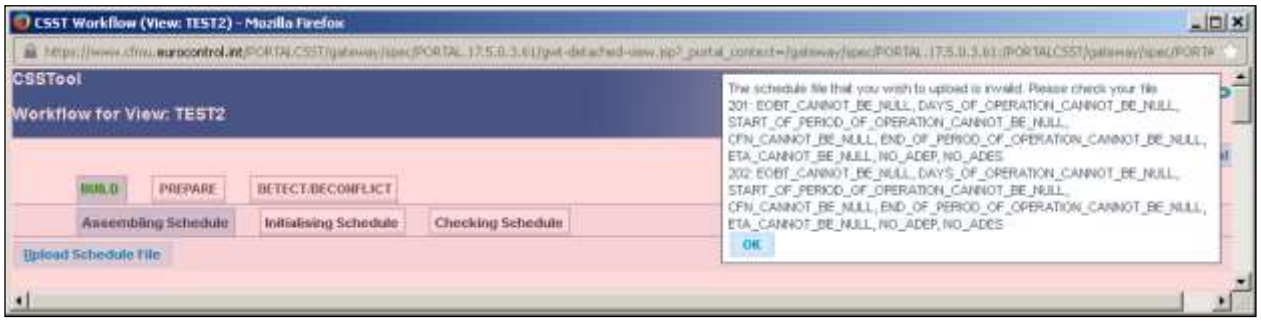
The schedule file is missing a mandatory column. See Chapter 3 for mandatory column headers.



Data Format Errors Reported by Line Number

In this example there is a format problem at or around lines 201 and 202 of the schedule file.

This can be due to balnk data or hidden characters within a cell.



INTENTIONALLY LEFT BLANK

13 Glossary

Airline	For CSST this denotes the IATA code for an aircraft operator
AO	For CSST this denotes the ICAO 3 letter code for an aircraft operator
ARCT	Denotes ICAO aircraft type designator in the conflict list
ATC Call Sign	The flight identifier as found on the Flight Plan. Format: ICAO code plus xxxx
ATC Flight ID	That part of the call sign, which can be changed to avoid call sign similarity.
Bigramme	For CSST the use of two final letters in a Flight ID. Example 31BA
Call Sign Map (C/S Map)	The list that maps ATC call-signs of a schedule to CFN and CFN suffix, and vice-versa. It is input to the CSST as part of the setup management. It is used during the BUILD workflow use case to re-use call-sign mappings from previous CSST sessions or from other user systems. It can be exported on demand using the download function in CSST.
CFN	Commercial Flight Number
Ch	In the conflict list denotes a flight which is flagged for a specific format (F) or has a comment attached (A) or a No Change attribute (N)
Change Actions	Opens a text box for a specific flight id. The user can make a comment, which will then be visible in the flight details window.
Change Restricted Auto (CRA)	A flight ID that has been flagged by CSST during autodeconfliction. This is normally the case when two flights in conflict had been manually marked for No Change in the schedule
Change Restricted Manual (CRM)	User has designated a Flight ID as one that has restrictions on changeability. For example, a flight subject to overflight permits.
Conflict	2 flights overlapping in space and time and breaking one of the CSST similarity rules, or a single flight breaking one of the CSST entity similarity rules
Conflict Priority	A value for the flight derived from the weighting of the violated rules, number of flying days and the number of aerodrome/airspace overlaps. A conflict which is resolved is given priority '0'
Conflict List	The user using the DOWNLOAD function on demand can export the list of all conflicts in the schedule (resolved and unresolved) .It. The conflict list will displays flights as grouped flights as necessary
CSMC	Call Sign Management Cell. The Eurocontrol support cell for Call Sign Similarity issues and CSST users.
Days	Days of operation of a grouped Flight. If all the members of the grouped flight have the same weekdays then it is that weekday, otherwise it is empty
#Days	Number of flying days wthin the period of operation for a flight

DC	The total number of days in conflict for the flight throughout the schedule
Deselected	Conflicts according reference setups, which are not taken into account due to user detection setting changes. For example, the reference detection gave 60 conflicts but user detection settings gave 40 conflicts. Thus 20 conflicts have been deselected due to the user changing rules or buffer times
CSST	Call Sign Similarity Tool. The web based application to which the CSST user guide refers
Detection criteria /set ups	The rules and buffer times as set up by the AO
Entity Conflict	A conflict involving 1 flight which violates one of the Level1 rules
Flight id	That part of the ICAO call sign after the ICAO AO designator ex. 345L. CSST uses the Flight id to detect conflicts.
Flight id format	Following ICAO rules for the FPL and normally consisting of maximum 4 characters after the ICAO AO designator code. Composed of numbers (n) and or letters (A)
French Exception	Normally Call Signs should use the 3 letter ICAO AO code. However, France allows domestic flights to use the IATA code which results in Flight ID format nnnAA.
Grouped Flights	This is the concept where during schedule upload CSST groups repetitive flights into a single flight. This is to reduce the number of lines in the eventual conflict list that the AO has to manage. So same flight numbers which have different days or periods of operation are grouped into one flight. If flights have different aircraft types then they are treated as separate groups.
HCP	Highest Conflict Priority. The highest conflict priority in which the flight or its same id set flights are involved
Leading zero	Refers to Zero or zeroes at the beginning of a Flight ID. Example 0153. The user will often want to avoid leading zeros in a Call Sign
LR	Low Risk. User can qualify a conflict as having a low risk of causing confusion.
Modify ATC Flight ID format	This button opens a text box where the user can fix the format for a particular flight ID. The fixed format will be applied during deconfliction (ex. nnAA, nnnA). An 'F' will also appear in the CH column for this flight.
Monogram	For CSST the use of a single letter at the end of a Flight ID ex. 456A
Nb C	The number of conflicts a flight is involved in
Next Flight	CSST label referring to the number of the onward flight/linked flight operated by the same airframe. CSST uses this information to qualify conflicts as being the Same Aircraft (SA).
NSA	No Solution Automatic. When auto-deconflicting CSST was unable to find a solution. For example the solution space was exhausted or some flights did not correspond to the user input preference format

NSC	No Sector in Common. User has decided that in reality the flight pairs are not overlapping. CSST will not deconflict a flight pair which has been qualified as NSC unless one of the flight ids is involved in additional conflicts
NSM	No Solution Manual. User has qualified a conflict as having no solution possible
Overlaps	Flights which are overlapping in airspace or time according to the buffer times. An overlapping flight pair is a conflict if it breaks a detection rule.
Overlap location info	In conflict filter screen allows user to filter flights which have overlaps/conflicts with other flights in a specific airspace or aerodrome location. Standard wildcards of * and ? can be employed (ex. EDYY*)
PR	Profiled. If ticked denotes that the flight has an airspace profile attached. If not CSST only checks overlaps around the aerodrome of arrival and destination.
Prio	Sum of the conflict priorities for a flight according to Detection set ups. Used by CSST to decide which of the flight ids to change
Profile Location info	.In the conflict filter screen allows to filter the flights on a profile location(airspace or aerodrome)
Reference Detection criteria /set ups	The rules(reference rules) and buffer times as set up by CSMC
Refprio	Sum of the conflict priorities for a flight according to Reference detection setups. Used by CSST to decide which of the flight ids to change
Related Flights	Flight groups which are related by same Flight ID.
SA	Same Aircraft. The conflict involves the same aircraft flying two legs. CSST will not deconflict a flight pair qualified as SA unless one of the flights is involved in other conflicts
Same ID Set	A Same ID set contains grouped flights all of which must have their Flight ID changed if the user changes only one of the flight IDs in the set. By default grouped flights are normally within the Same ID flight Set.
Schedule	The list of flights in the schedule and additional schedule information. It is input to the CSST in the BUILD workflow (in SSIM, csv or xlsx format, when assembling the schedule. It can be output on user demand (in csv/xlsx format) during the course of any workflow use case realisation using the Download function.
Schedule query button	Located In the View workflow window. This button allows to query details of a flight from the schedule which was uploaded in CSST. The user can also delete or modify flights here before initialisation. Wildcards cannot be used in query schedule. Grouped flights are ungrouped so the user sees flights as they exist in the complete schedule

SID	Same ID Set. Flights that are grouped together for deconfliction. If one of the Flight IDs in the group is changed this will apply to all flights in the group.
Solution Space	The Digits or letters available, which can be used to provide conflict, free solutions.
Transformation	Changing the Flight ID by adding or removing the first or last character and replacing it with a letter.
Undo CFN/ATC Flight id changes	This button allows the user to undo the changes made by autodeconfliction.
Unprocessed	The conflict has not been processed. The user has not looked at this conflict or qualified it.

Appendix 1 – Similarity Rule Implementations

The majority of rules can be attributed to all flights (Global) or targeted for a specific Aerodrome or set of aerodromes and airspaces (Local).

A. Level 1 Rules applying to Single Flight IDs

Rule ID	Name	Description	Example
100	ATC_Flight_ID_Formats	Acceptable Flight_id formats	n, nA,nnA,nnnA,nAA,nnAA
200	CFN_Formats	Not yet in scope	
300	Flight_Level_Values	Captures Flight_Ids corresponding to flight Levels	200-480
400	Flight_Heading_Values	Captures Flight_Ids corresponding to flight Level headings	
500	Runway_Values	ATC Flight Id must avoid patterns: nnL nnR nnC where nn is in range nn, nn] with step	36R, 07L, 02C User enters number range nn-nn. CSST will automatically avoid L,C,R at the end of input range Ex. Range 01-36
600	QNH_QFE_Low	Captures Flight_Ids corresponding to pressure values nnn-nnn	985-999
700	QNH-QFE_High	Captures Flight_Ids corresponding to pressure values nnnn-nnnn	1000-1030
800	Squawk	Captures Flight_Ids corresponding to SSR codes	7500, 7600 , 7700
900	VHF	Not yet defined	
1000	Triple Repetition	Flight_id cannot contain triple repeated digits	1333,333,888,4441
1100	Combinations_To_Avoid	List of values to be avoided. Comes with an attribute value in exact match, include anywhere, start with or end with	No use of O (Oscar) anywhere in call sign No use of Q at end of Call Sign
1200	Last_Digit_0_5	ATC flight id cannot end with 0 or 5	120, 125
1300	Equals_CFN	ATC flight id must be equal to CFN (not taking into account the suffix)	Destined for local rule airspace use where ANSP forbids changes to CFN

B. Level 2 Rules which apply to overlapping flights. Single AO or Cross (Multi AO)

Rule ID	Name	Description	Example
1400	Identical_Flight_ID	Duplicate ATC flight ids cannot exist where the CFN is different.	CFN 123 = ABC12A CFN 456= ABC12A
1500	Identical_Final_Digits	ATC flight ids cannot end with 2 or more (parameter) identical digits. When the parameter is 0: the last 3 digits of both CS cannot be the same. (e.g. (102A,4102) is a conflict)	121 versus 521 102A versus 4102
1600	Anagrams	ATC flight ids cannot be anagrams of each other (i.e. same characters in different order/number of occurrences) (e.g. (1002, 1220) is a conflict but (1002, 1222) is not)	354 versus 453
1700	Identical_Block_Digits	ATC flight ids cannot contain the same block of 2 or more digits	1234 versus 4235
1800	Parallel Characters	ATC flight ids cannot contain two or more same characters at the same positions - The default parameter is 3 same characters, except if both call signs have length 3 (in this case the parameter will be 2). - 2 Identical final characters is a conflict - special cases conflicts depending on both Callsign length: - 3vs4, 3vs5, 4vs4, 4v5, 5v5 ; First and last characters of both CS are equal, and one more additional character is common. First and second character of both CS are equal, and one more additional letter in common. When length is 3vs4, first and second character are equal, and both CS contain at least one more letter - 2vs3 -2v4 should only be a conflict when first 2 digits are identical and same position or when callsign 2 contains the block characters of call sign 1 - 2vs2, 1vs2,: both CS start or end with the same character	1234 v 5234 234 v 236 1234 v 6534 123 v 1623 1256 v 1246 12 B 123B 12 1256 12 3125 1A 31AB 36 v 46
1900	Identical_Digit_Roots	ATC flight ids cannot start with 2 or more identical digits	123 versus 125
2000	Identical_Bigrams	ATC flight ids cannot end with 2 or more identical letters	123GH versus 456GH
2100	Identical_Final_Letter	ATC flight ids cannot end with the same letter	123A versus 656A
2200	Partial_Anagrams	ATC flight ids cannot contain partial anagrams of the other (i.e. two or more characters in different places	1234 v 3215

		and order) user sets parameter for number of same characters to take into account	
2300	Identical_Except_Leading_Zeroes	Once having removed the leading zeros, ATC flight ids cannot be equal	003 v 3
2600	One_Cmn_Digit_In_Three_And_Letter	1 common digit out of 3 in the same position plus1 same letter	135A v 146A
-2700	Two_Cmn_Digit_in_Three_And_Letter	2 common digits out of 3 plus 1 same letter. Position of digits is not relevant. Applies when both call signs are length 4	135A v 154A
-2800	Three_Vs_Three_A_Digit_In_Cmn_And_Letter	3vs3 one digit in common plus same last letter. Position of digits is not relevant	89A v 91A
-2900	Length_Four_A_Digit_In_Cmn_And_Letter_In_Cmn	length 4 1 digit and 1 letter in common . Position is not relevant. Does not apply whern bigrammes are present. Example 56AV 36EV not a conflict	435A v 367A
-3000	Para_Two_Vs_Three_First_And_Last_Symbol_In_Cmn	parallel 2vs3 first and last symbol in common	4A v 41A 23 v 253, 4B v 4AB
-3100	Two_Letter_Anagram	capture of call sign similarities containing bigrammes where the last two letters are anagram.	31BA 65AB
3110	Last_Two_Letters of ADES	Conforms to IFATCA recommendation. Captures flight IDs where the last two letters correspond to the last two letters of the ICAO code of the ADES	ABC12BR landing Brussels (EBBR) captured as entity conflict

C. Level 2 Rules which apply to all flight pairs in a schedule

Rule ID	Name	Description	Example
2400	Identical_Flight_IDs	Two flights with identical ATC flight ids must have identical CFN and suffix	CFN 1234 234A v CFN 366 234A
2500	Unique_Numeric_Flight_ID	A flight with a numeric ATC flight id and having a CFN different from its ATC flight id cannot have its ATC flight id equal to the CFN of another flight in the schedule (not taking into account CFN suffix)	1234 565 565 45Y

Appendix 2 – Basic Procedure

This annex provides short guides with screen shots for the more common user workflows.

A. Basic Procedure Detect/De-confict

There should already be a valid schedule ready stored on the computer.

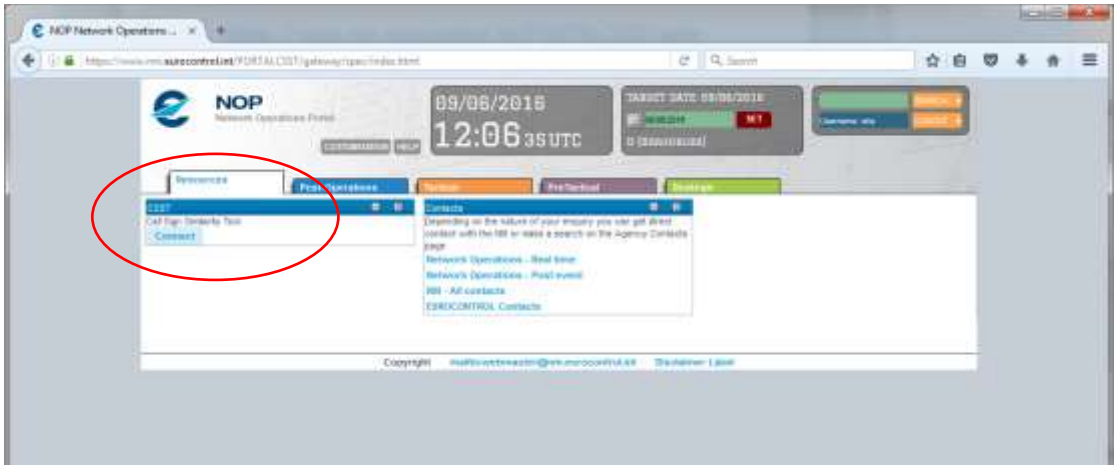
Access CSST via the following link:

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/index.html

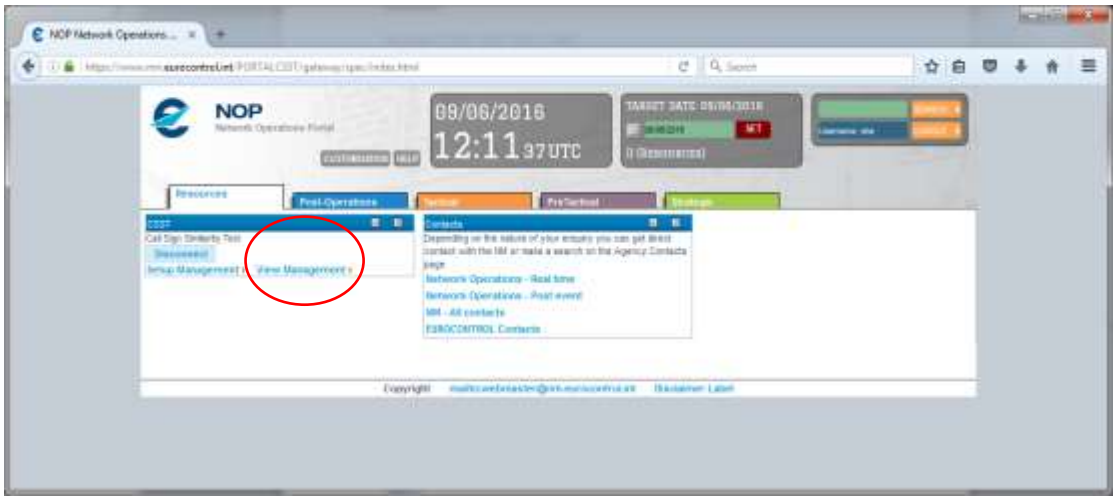
Check to allow popups from EUROCONTROL

Use a token ID to Log in, CSST is under the resources tab.

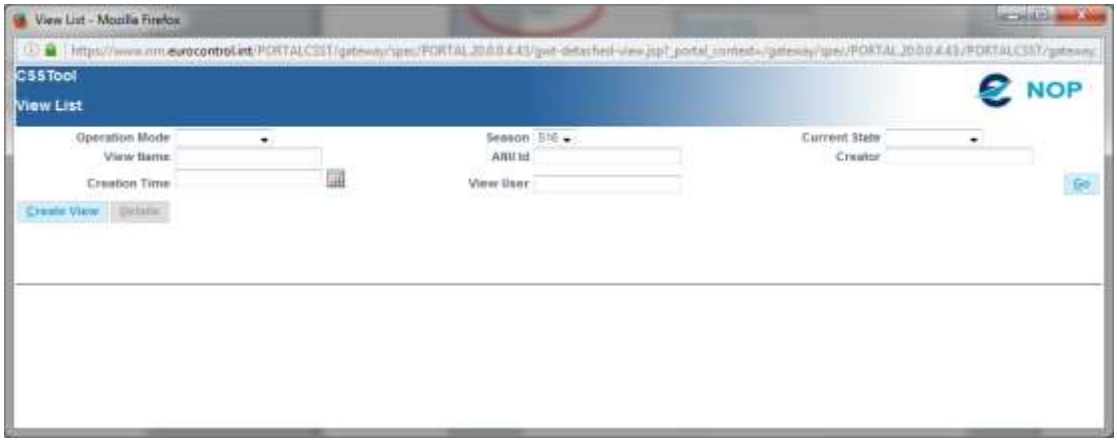
Click on ‘Connect’



Click on ‘View Management’



Click on ‘Create View’

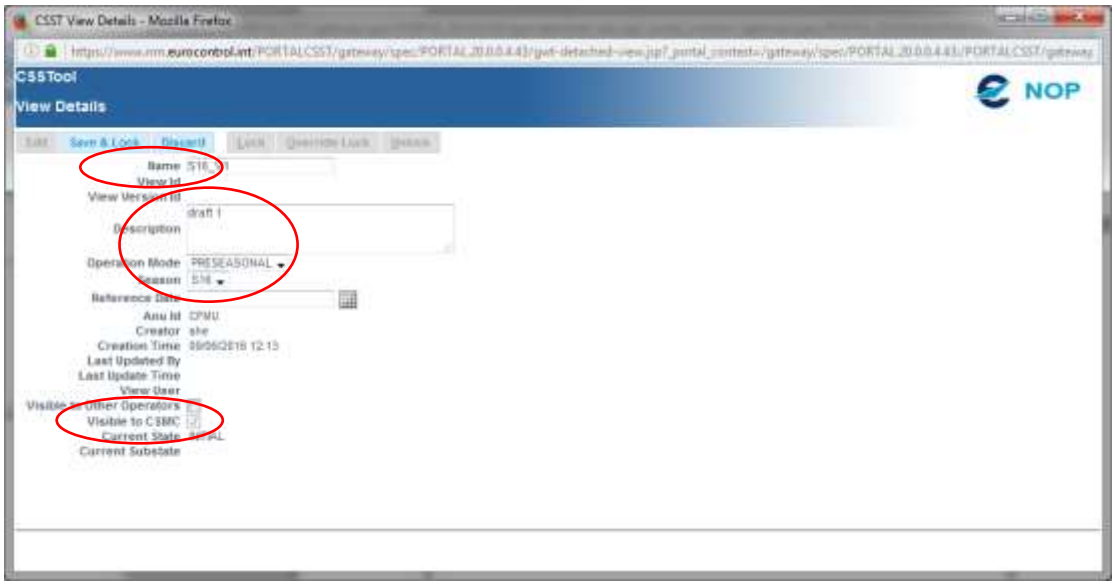


Fill in Name and Description

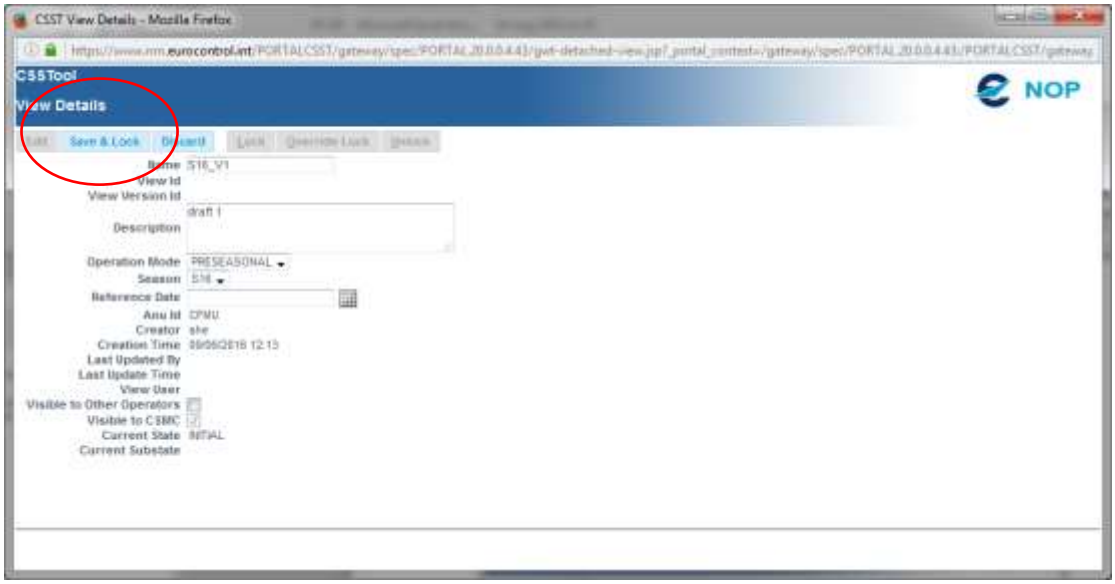
Make sure Operation mode is PRESEASONAL

Select correct season

Tick visible to CSMC (to allow CSMC to be able to pick up that View later in case of problems)



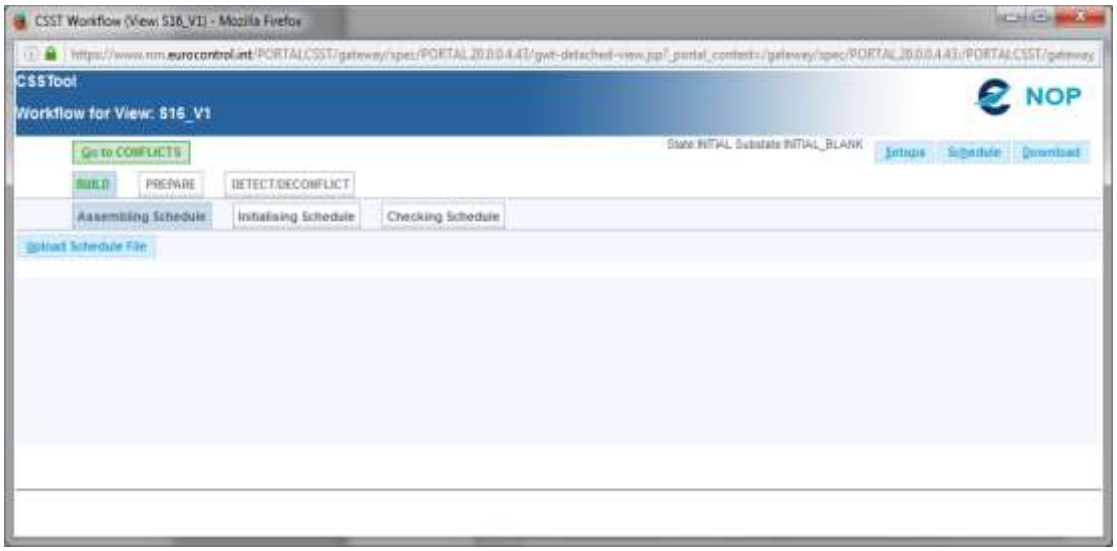
Click on' Save and Lock'



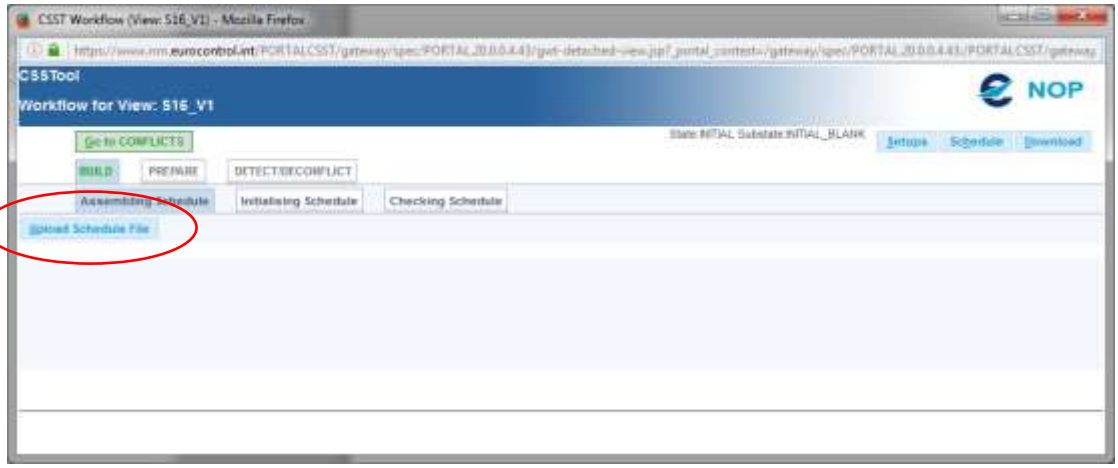
This should automatically open the principal window 'View Workflow'

From this window the AO will upload a schedule/s and detect conflicts.

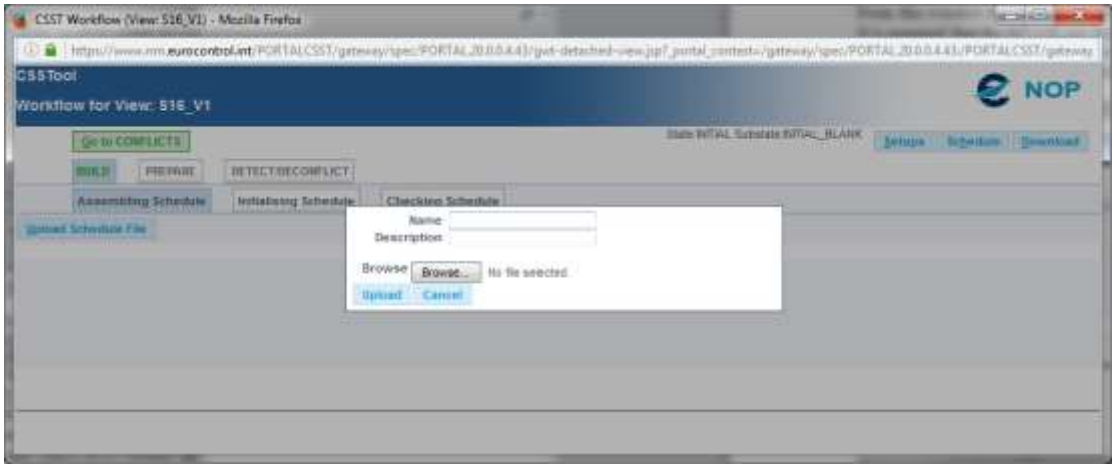
It is assumed that the AO will use the global default setups (detection rules, buffer times etc.) for the rest of the workflow. If the AO needs to change any of the global default setups he should check CSST User Manual or contact CSMC for help.



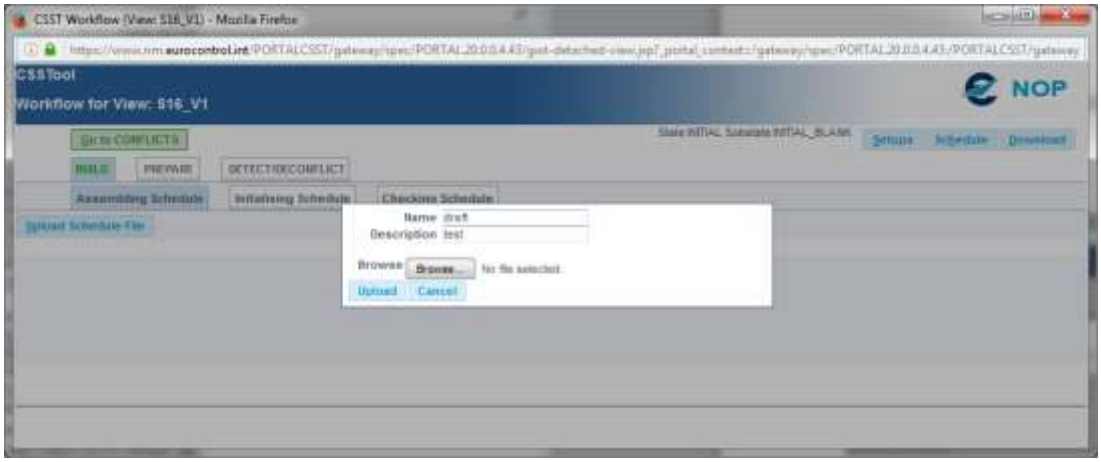
Click on upload schedule



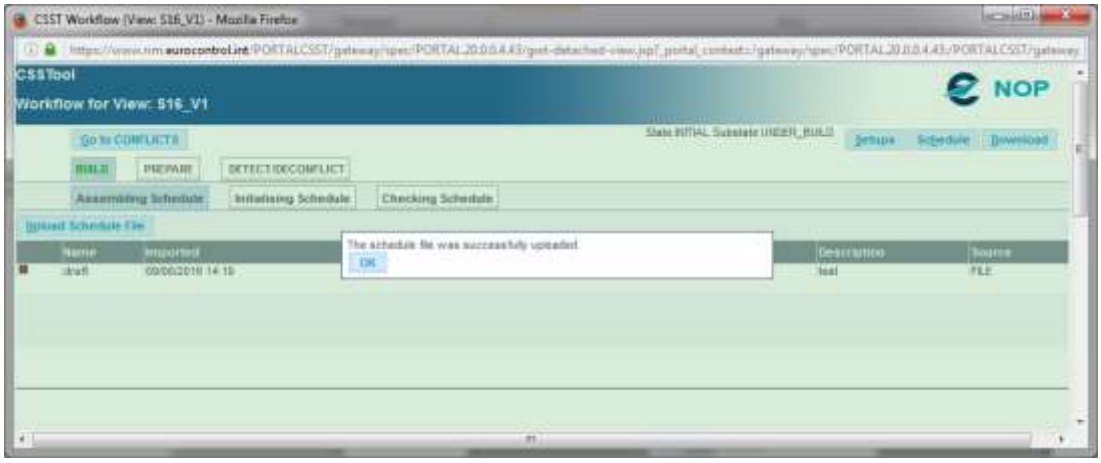
Select your schedule



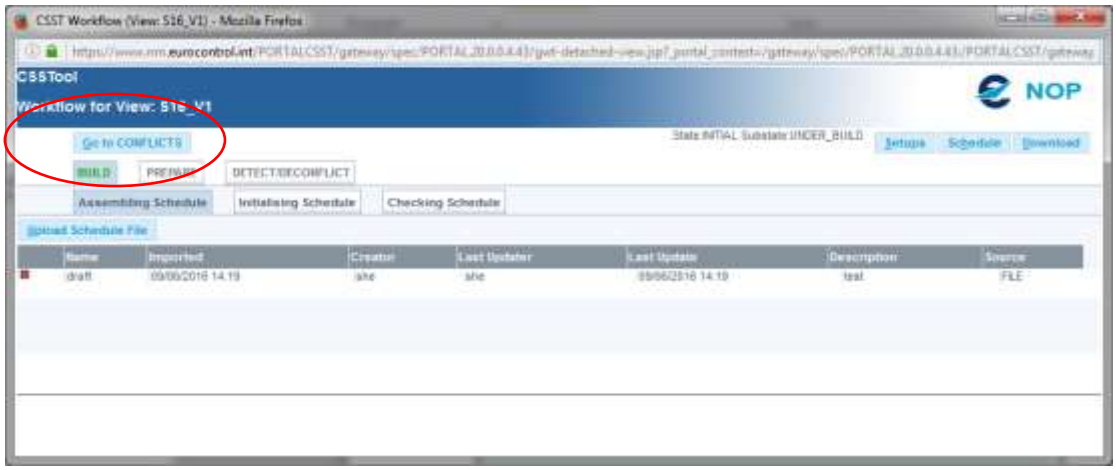
Fill in Name and Description, Browse and select your file then click on ‘Upload’



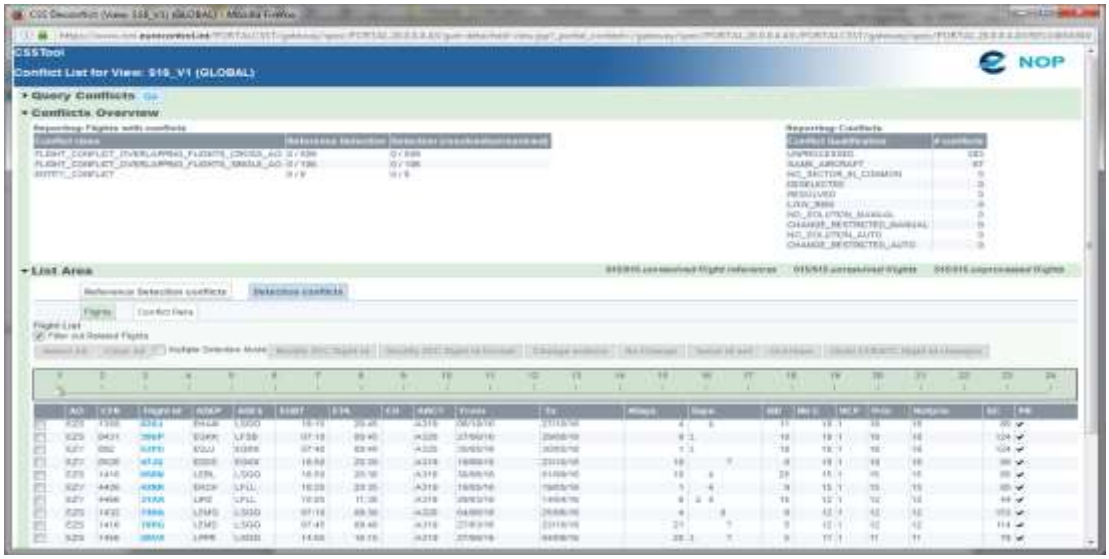
Click on OK



Click on 'Go To Conflicts' then 'Yes' to start the rest of the workflow



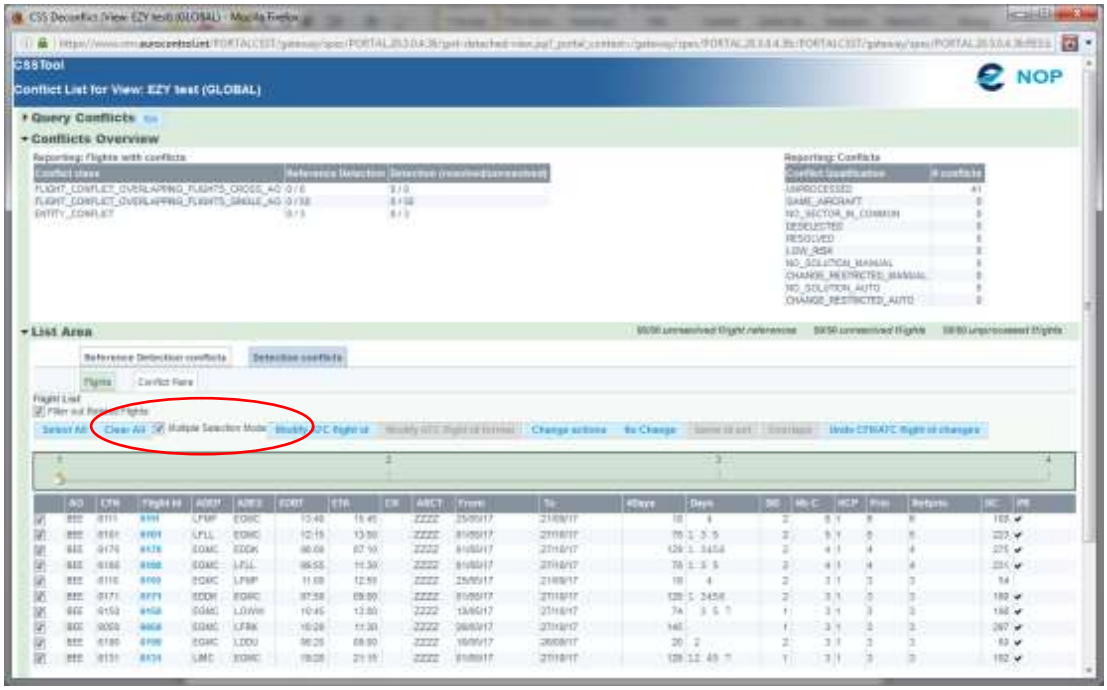
When the workflow has finished the result is the conflict list



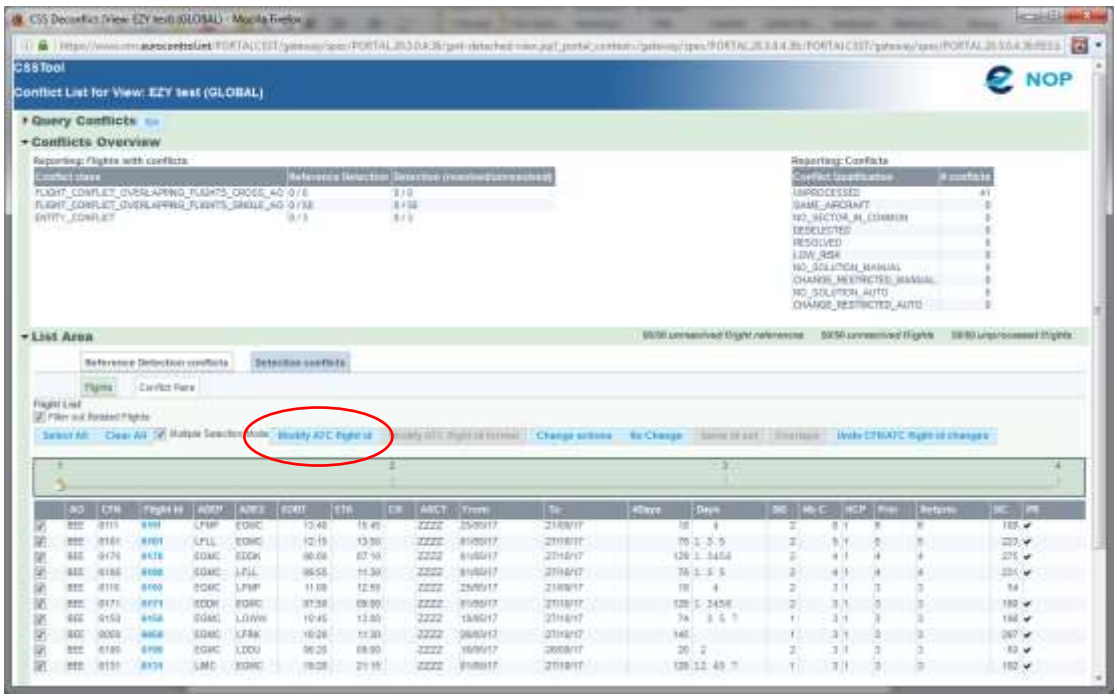
From the conflict screen you can select individual flights or all flights in conflict and ask CSST to give new Call Signs (Flight ID)

To select all flights for deconflcition (new call signs):

Click ‘Multiple Selection’ and ‘Select All’ buttons:

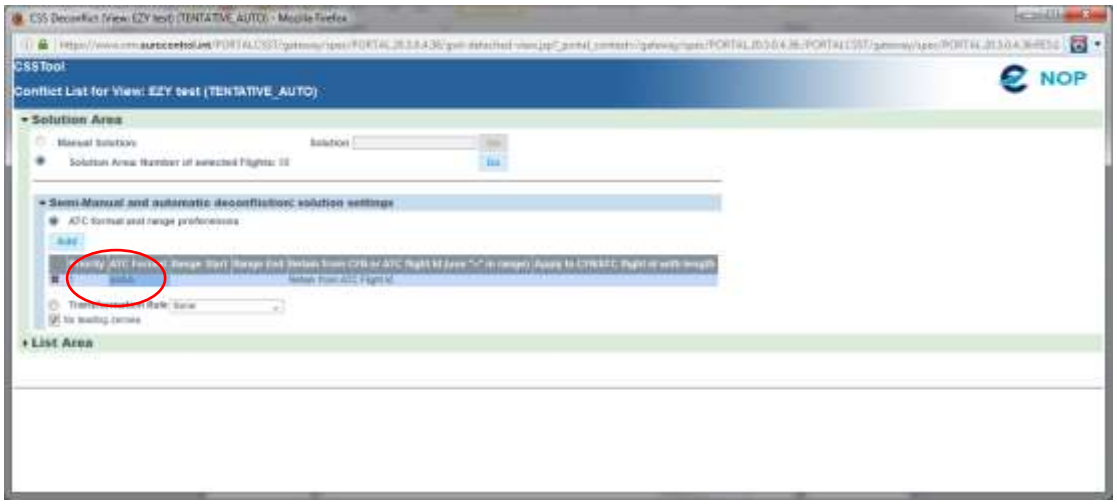


Click on ‘Modify ATC Flight ID’



This opens the Deconfliction screen where in CSST format for the new call signs can be selected

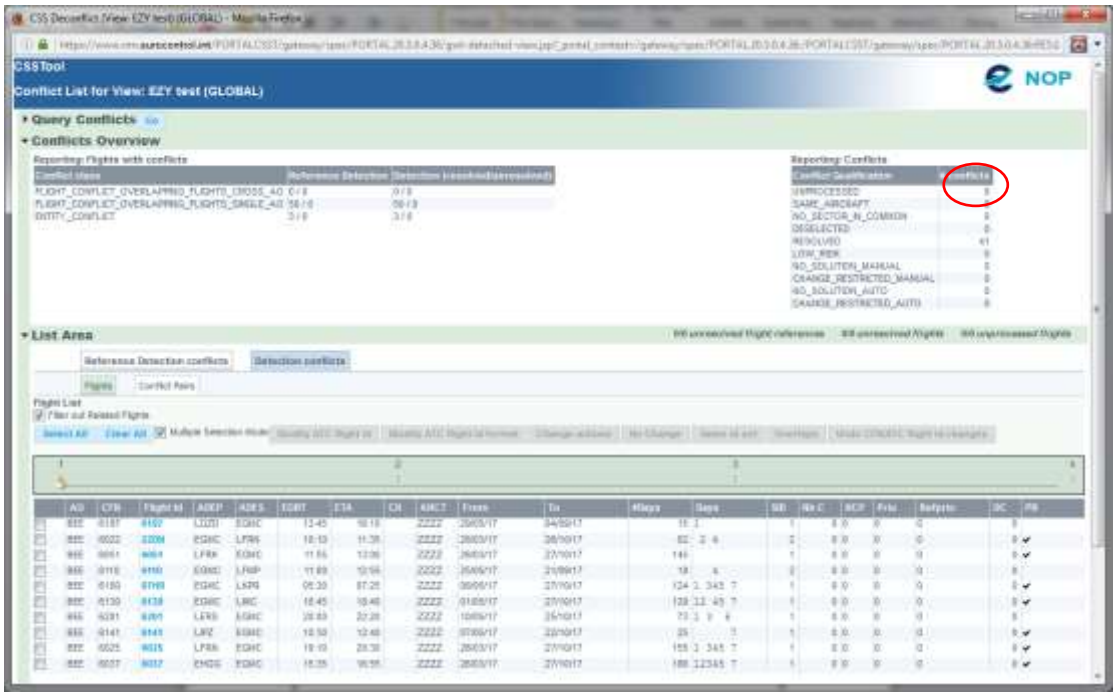
Here the user has chosen the format nnAA (2 digits followed by 2 letters)



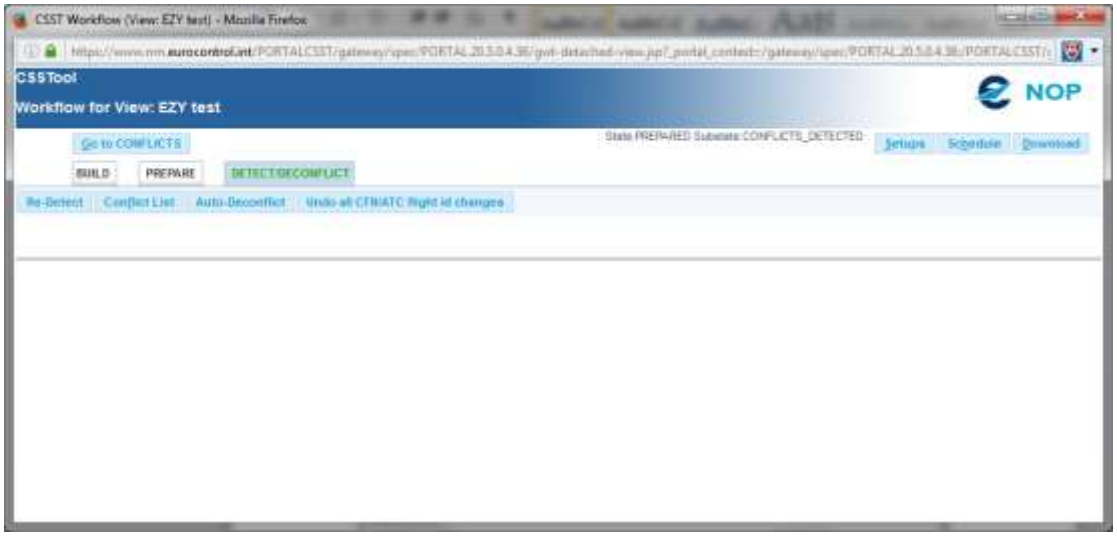
Click on Go

When the deconflictions is finished click on 'Close' and close the deconfliction window

CSST should return to the conflict list, which will now probably show no conflicts

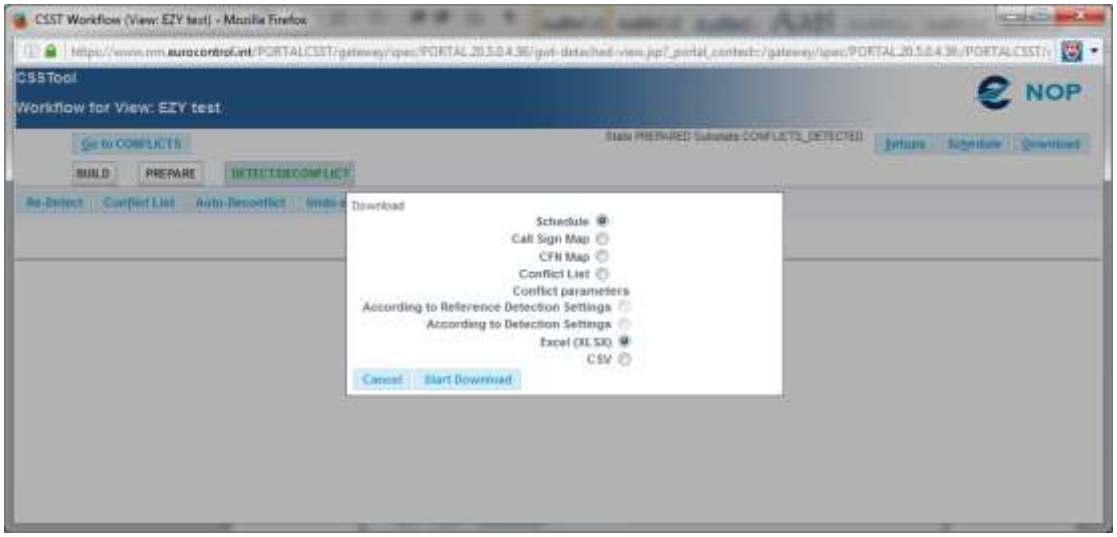


From here, it is probably best to close the conflict list window and go back to the main view window

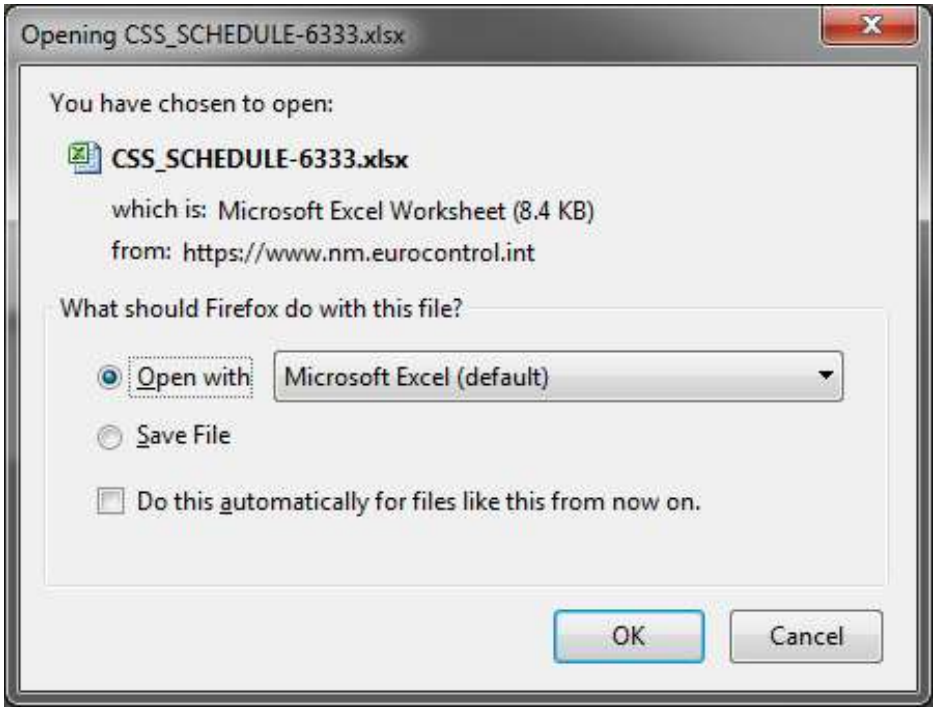


From the View window use the Download button to export an Excel file of the new Schedule or Call Sign Map

Click on Download then tick schedule Excel and start download



Open or Save the resulting file

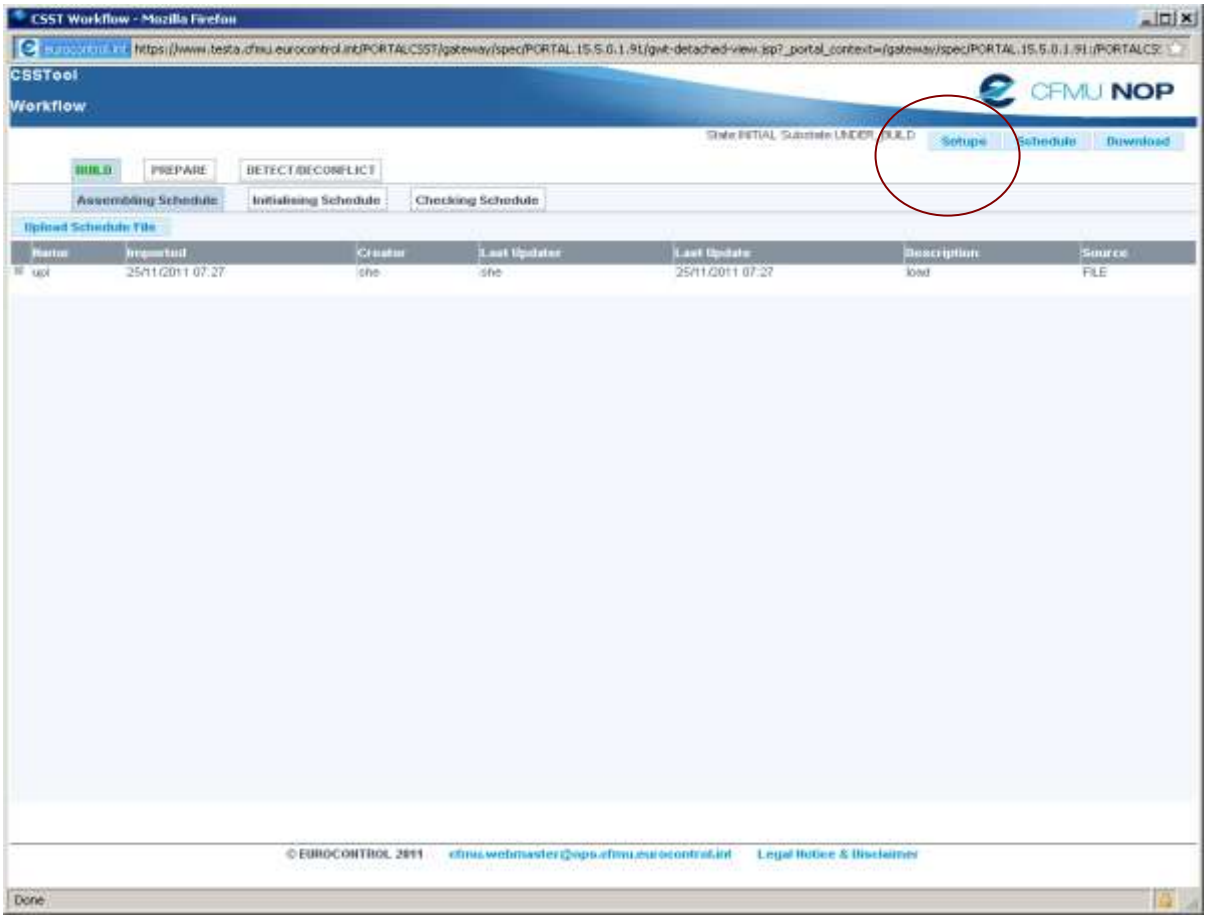


B. Using a Call Sign Map

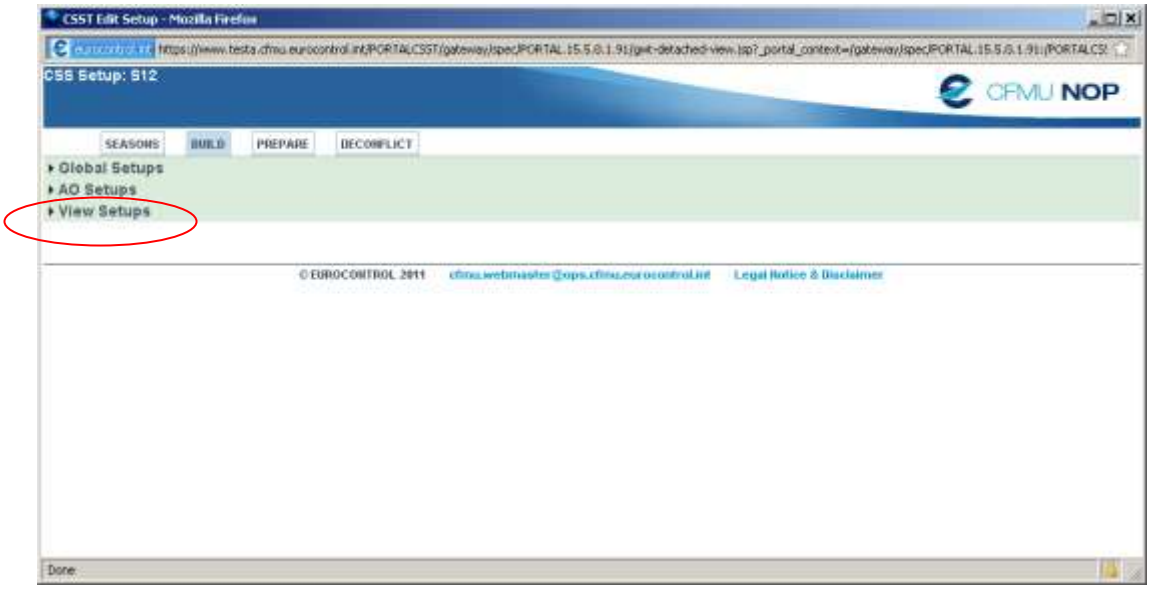
Create Your View

Upload your schedule file DO NOT INITIALISE

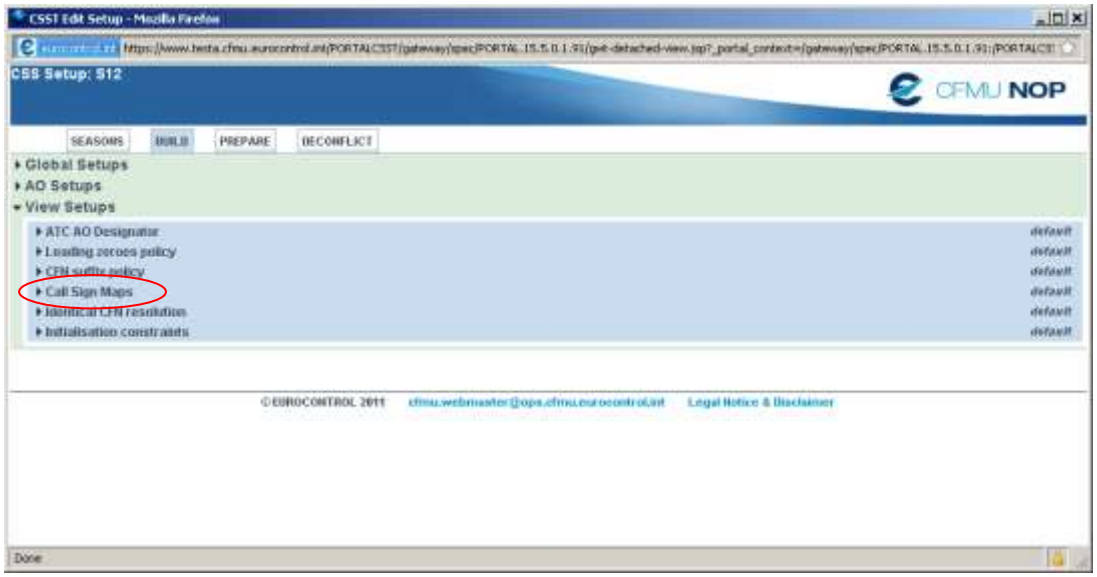
Go to Setups



Click on “View Setups”:

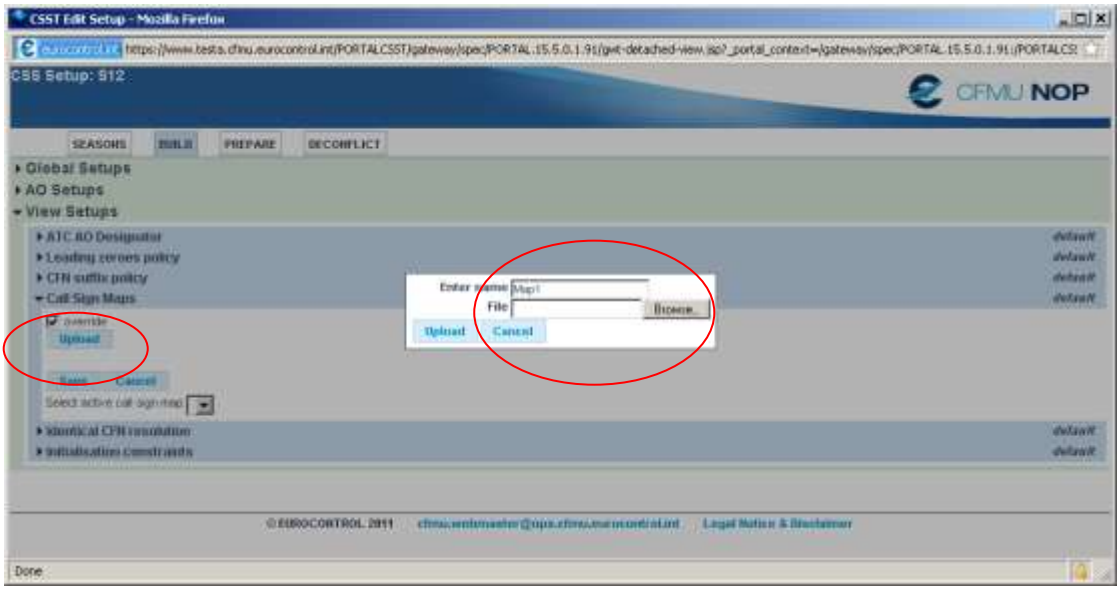


Then “Call Sign Maps”

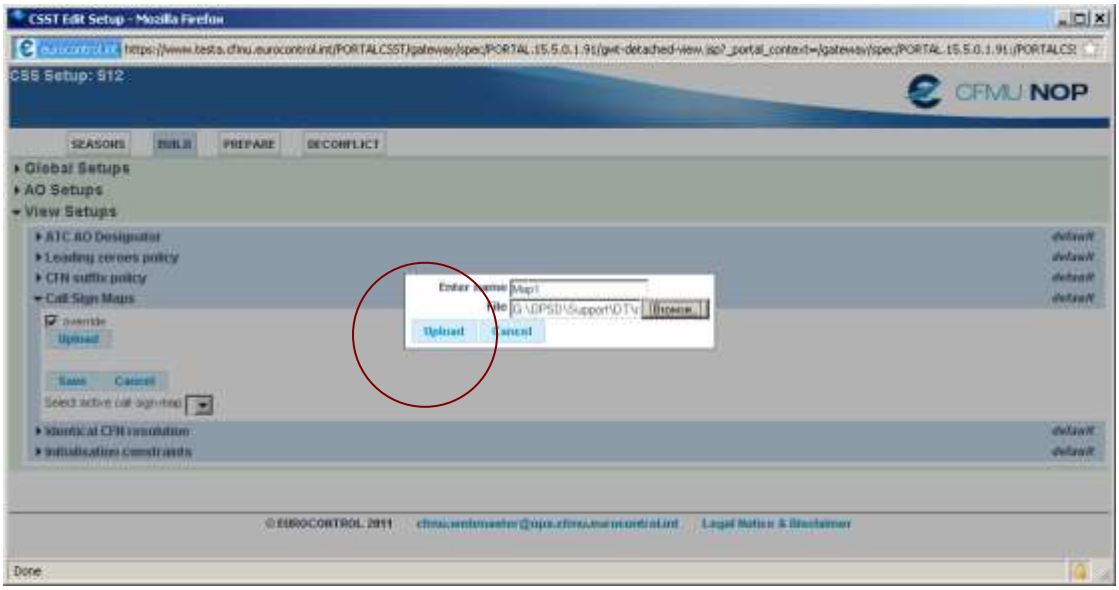


Click on “Override”

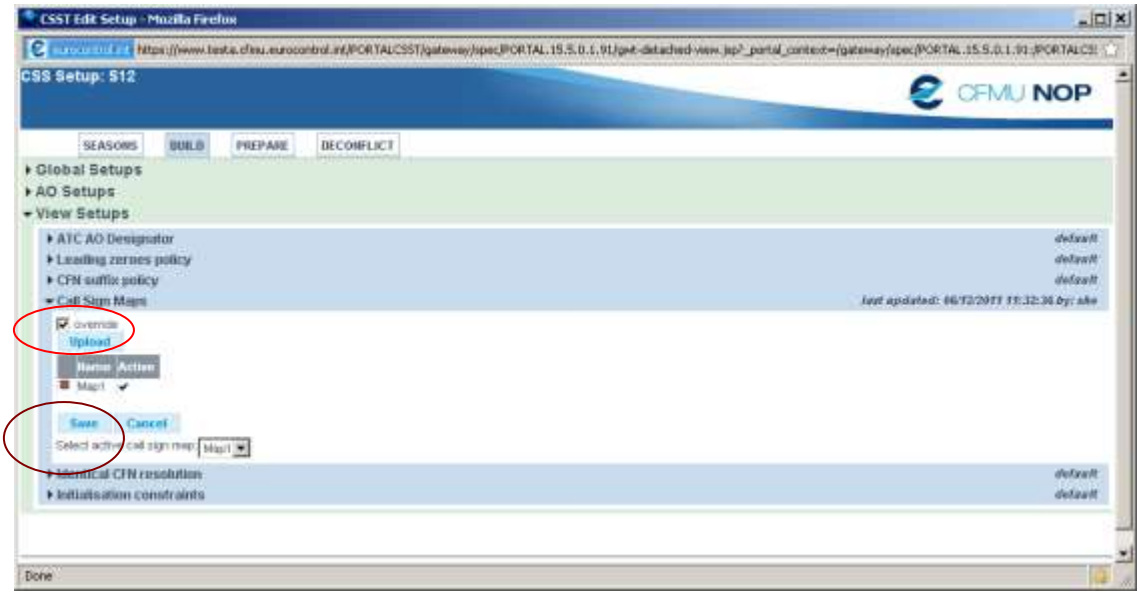
Then “Upload” and enter a name then browse to get the Call sign Map:



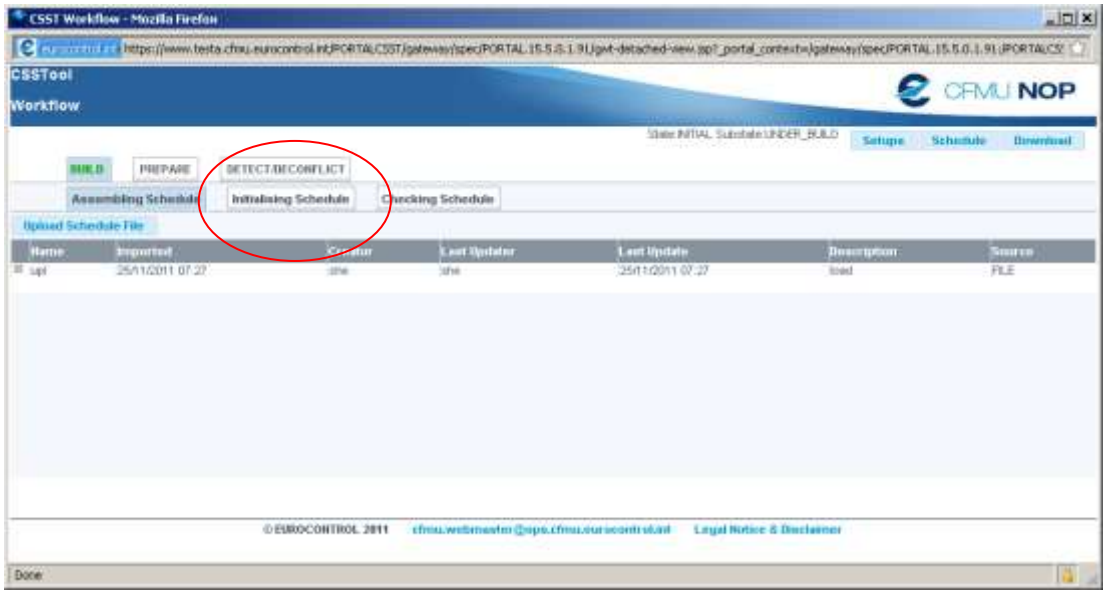
Click on Upload



Click again on “Override” and then “Save” to make the Call sign Map active:



Close the window and go back to the View window and now do the initialize



The initialization will use the CFN from the .ssim file and where it finds one Flight ID from the Call Sign map.

Abbreviations

Abbreviations and acronyms used in this document are available in the EUROCONTROL Air Navigation Inter-site Acronym List (AIRIAL) which may be found online:

http://www.eurocontrol.int/airial/definitionListInit.do?skipLogon=true&glossaryUid=AIRIAL.

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