

RWY Collision risk model V2.3 17/11/2020

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Scope of the Risk Model

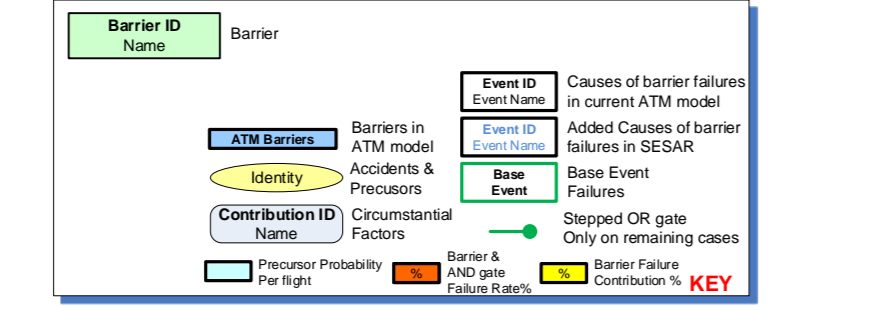
Risk Model	Type of accident	Operational Environment / ATService provided	Systems / Elements considered
RWY Col Runway Collision	Collision between: - two aircraft, OR - an aircraft and a ground vehicle, OR - an aircraft and an obstacle, OR - an aircraft and a person/animal	- Occurrence happening in the runway area of an airport (including landing and departing operations) - Service provided by ANSP: Tower Control service (preventing collision between aircraft and aircraft and vehicles and aircraft and obstacles) On the ANSP side to provide Tower Control: - Tower Controller - Conflict Alert systems, Surveillance and Communication systems, Flight Planning system, conflicting intrusions detection systems. On the runway/airport: - Surface Marking and lights with respect to runway layout, identification and access - Runway Occupancy/Use system for pilots and vehicles	In the aircraft: - Flight Crew - Navigation, Surveillance and Communication systems on board - Airport related procedures On the ANSP side to provide Tower Control: - Tower Controller - Conflict Alert systems, Surveillance and Communication systems, Flight Planning system, conflicting intrusions detection systems. On the runway/airport: - Surface Marking and lights with respect to runway layout, identification and access - Runway Occupancy/Use system for pilots and vehicles

Cases taken into account in the model (combinations of situations leading to a Conflict)

In the model several Cases are mentioned (in bold). They refer to the following scenarios involving the combination of clearance and/or actions by the pilot/crew without authorisation

Single RWY	Clearance	Unauthorized
Take-up	5, 7, 2, 55, 16, 23, 31, 39, 47, 70	
Take-off	6, 13, 4, 10, 20, 25, 33, 41, 49, 71	
Clearance	1, 3, 14, 12, 18, 27, 35, 43, 51, 72	
crossing	8, 9, 11, 56, 22, 57, 58, 59, 60, 73	
back-track	15, 19, 17, 21, N/A, 29, 37, 45, 53, 74	
entry	24, 26, 28, 61, 30	
take-off	32, 34, 36, 62, 38	
Clearance	40, 42, 44, 63, 46	
take-off to visual	48, 52, 64, 54	
animal/person	65, 66, 67, 68, 69	

Note: For cases concerning a first clearance being provided, two cases are considered
- those where the first clearance was appropriate - case indicated with an A.
- those where the clearance was inappropriate (relating to a wrong or case RWY) - case indicated with a B
The absence of A and B means that the case encompasses both scenarios.

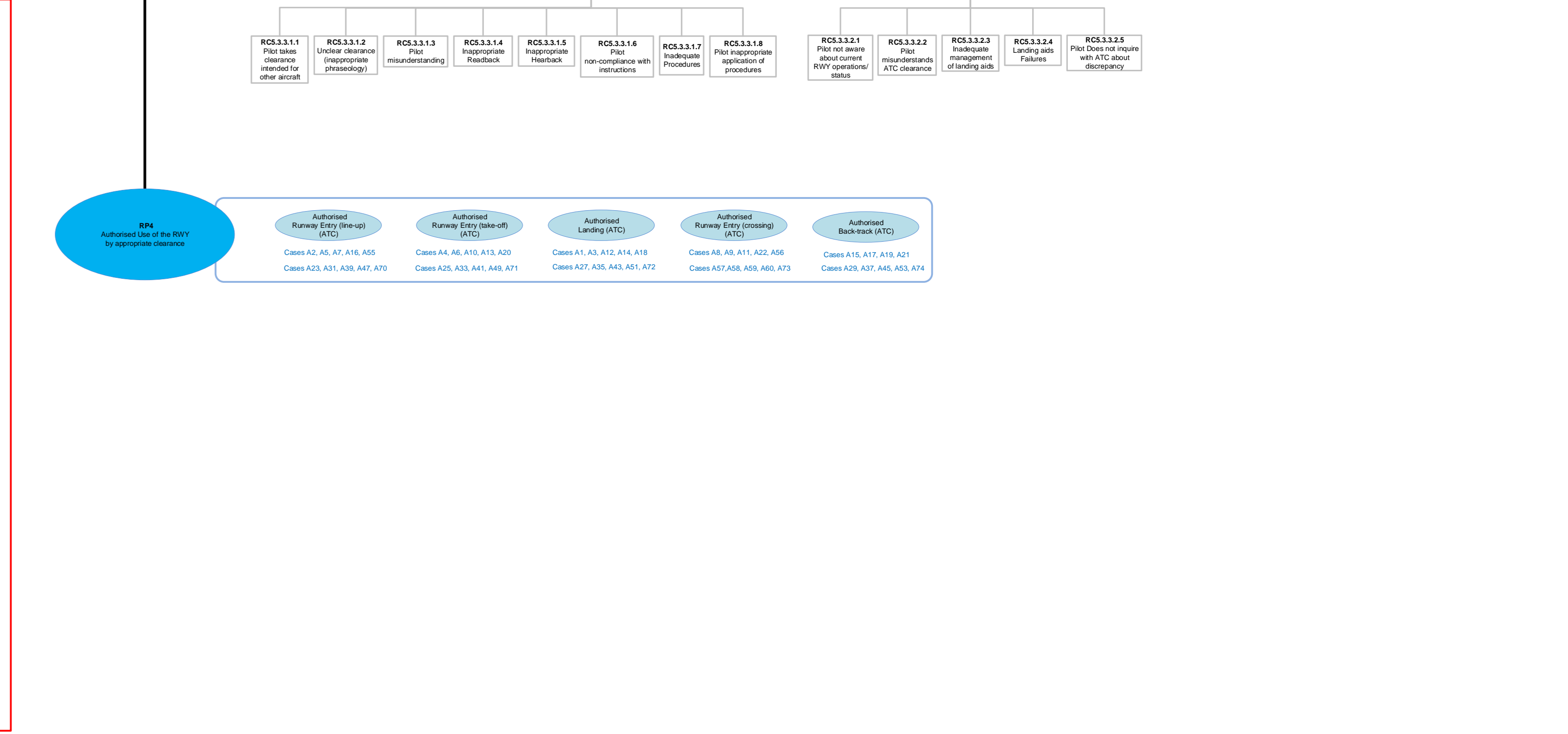
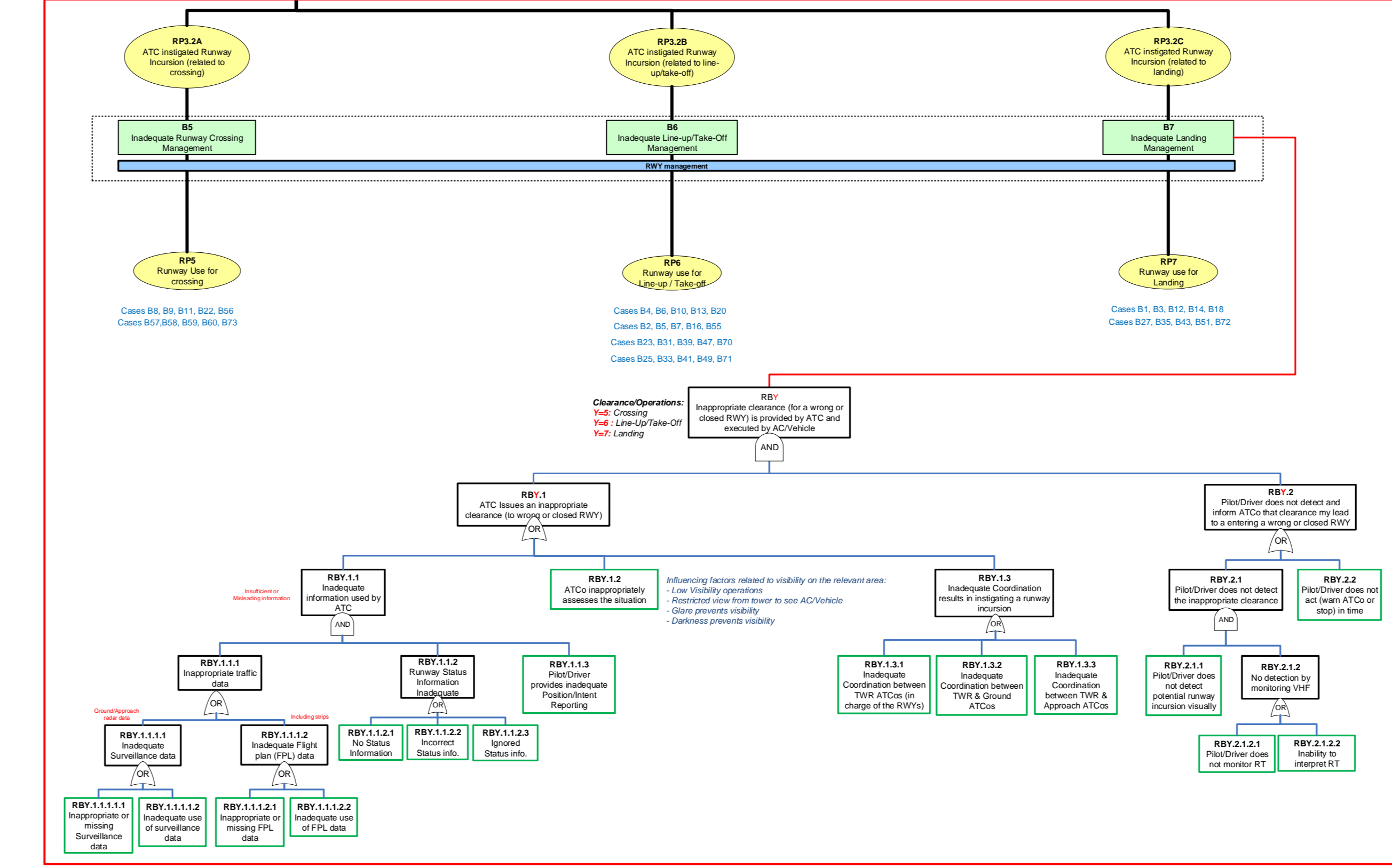
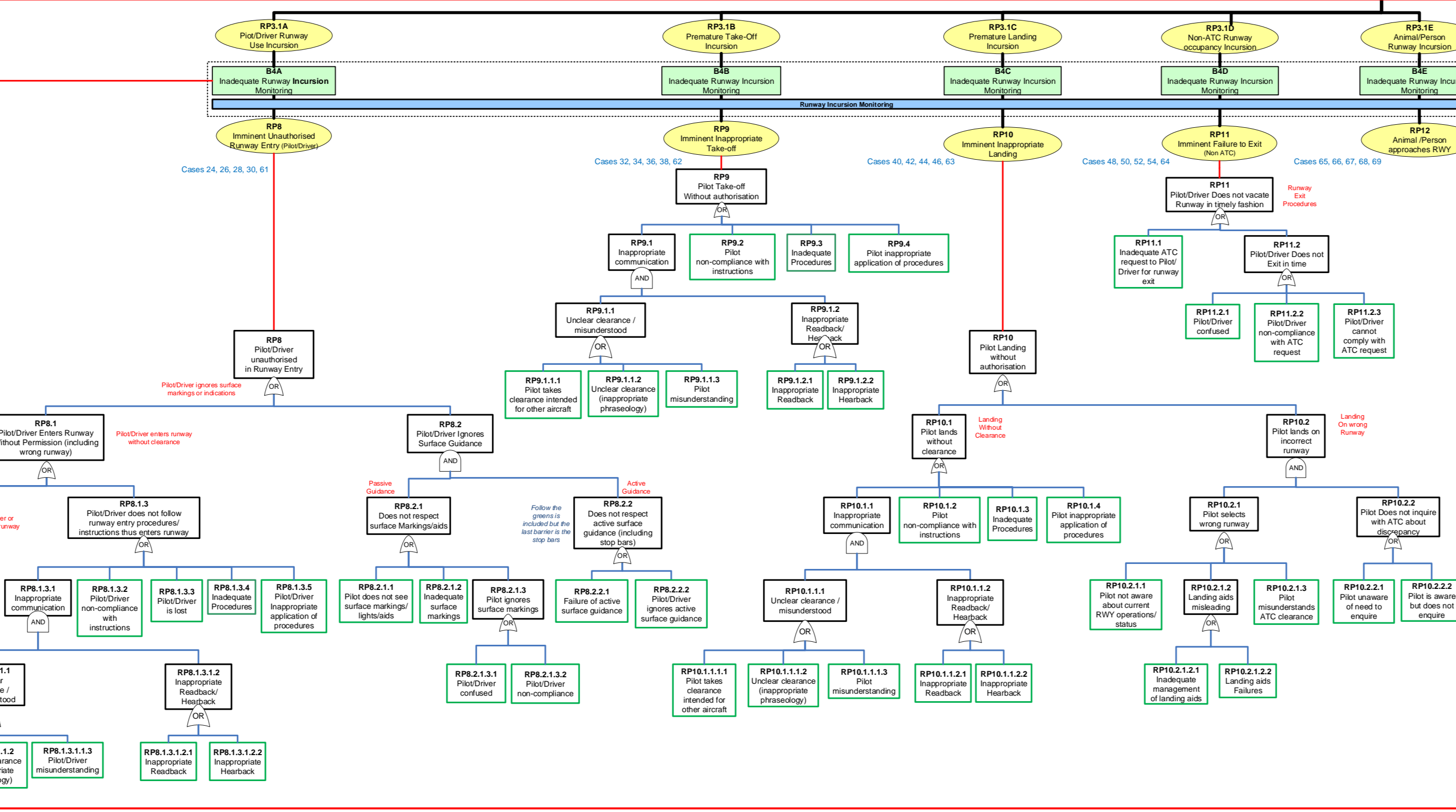
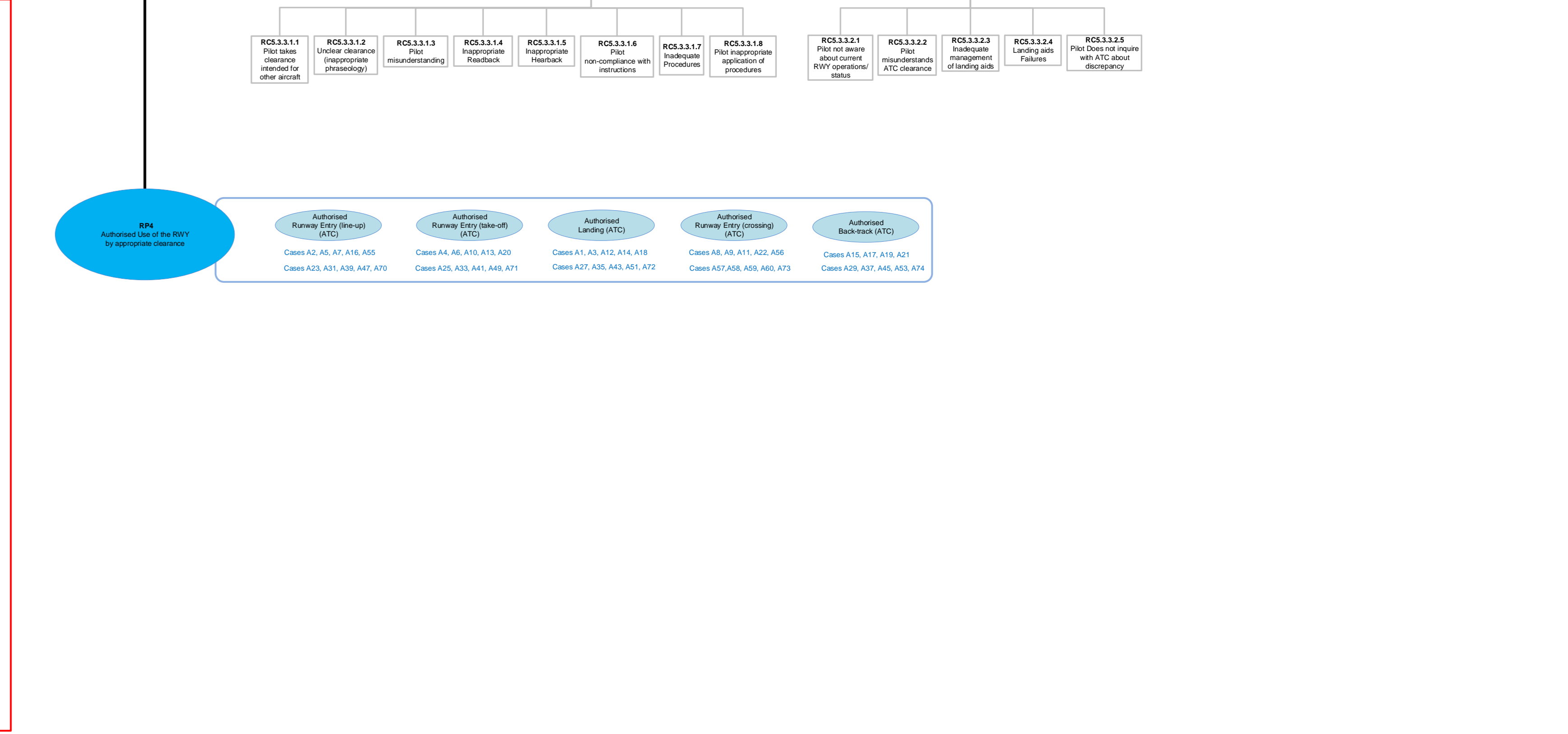
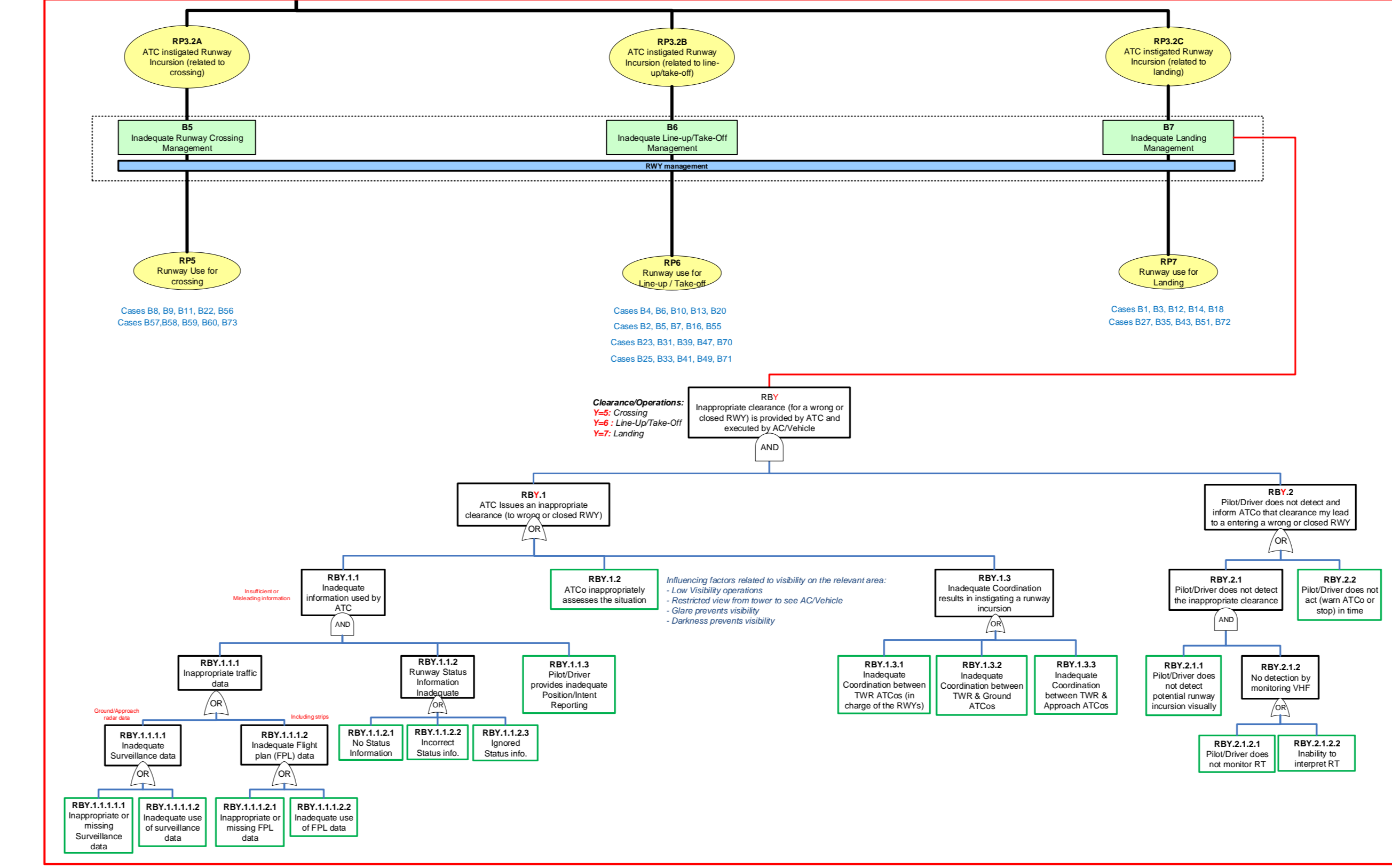
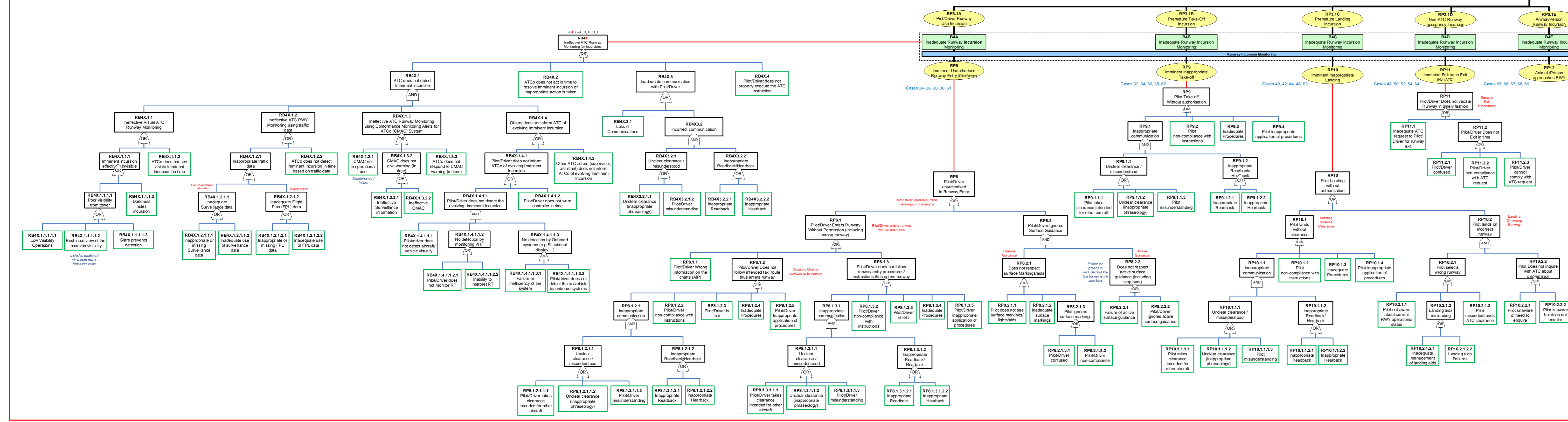


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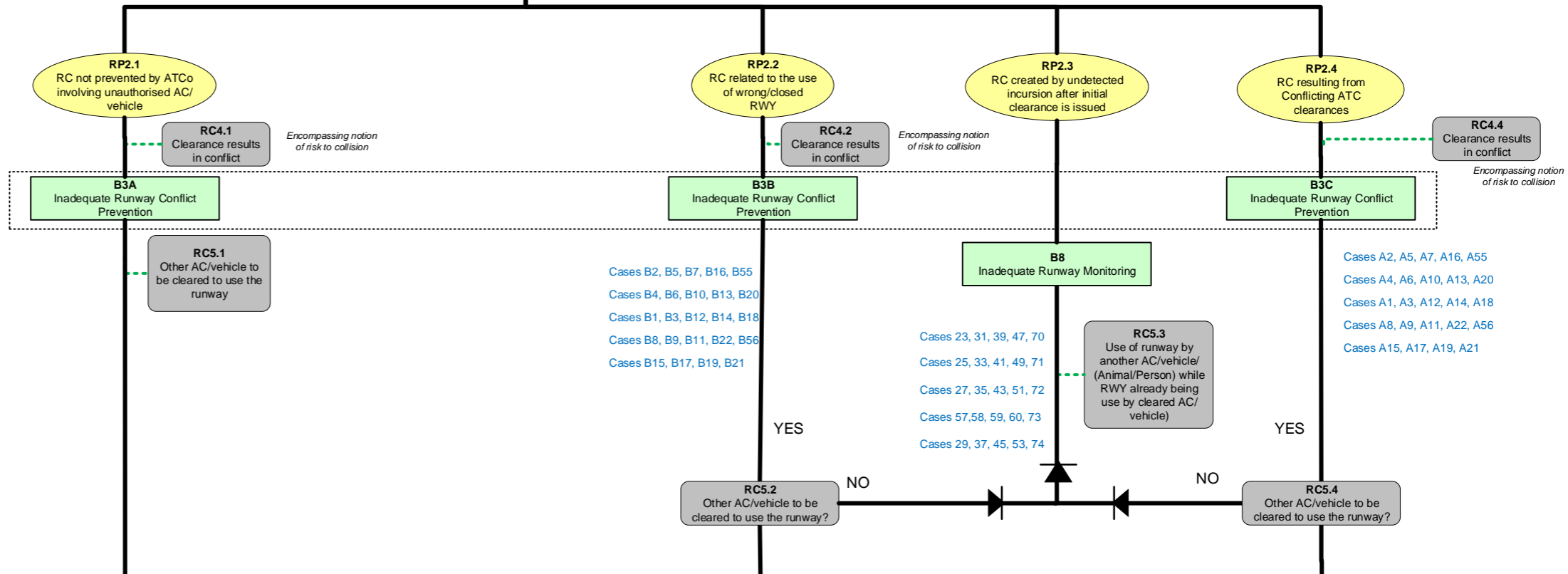
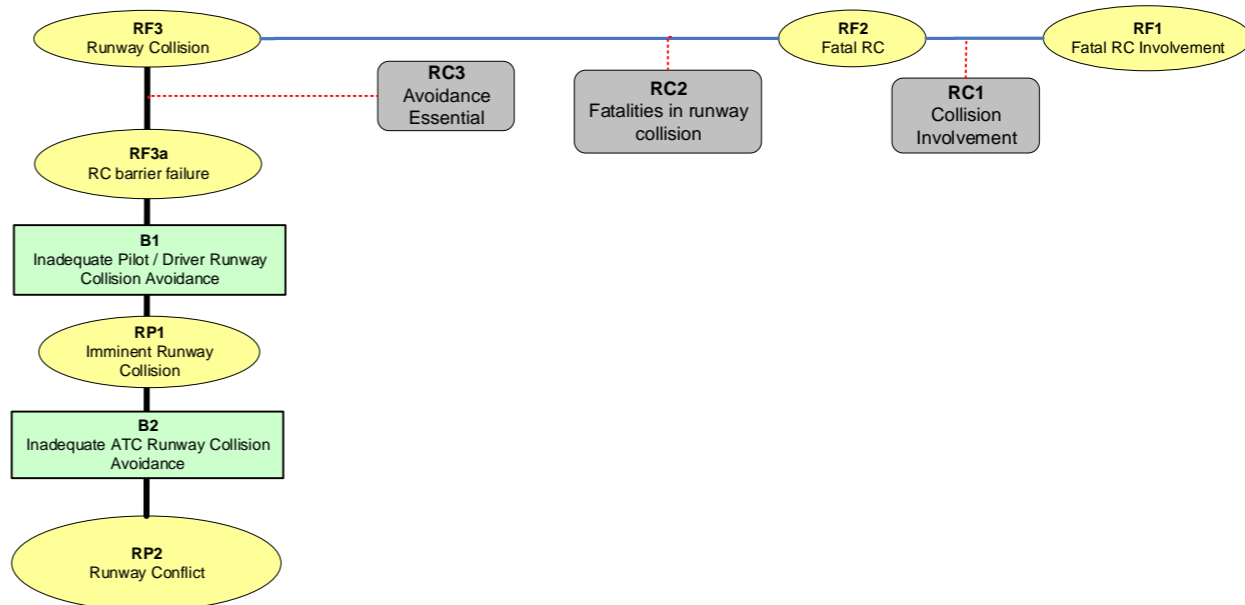
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Intrusions in this barrier are ONLY those induced by the pilot or driver

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Cases B2, B5, B7, B16, B55
Cases B4, B6, B10, B13, B20
Cases B1, B3, B12, B14, B18
Cases B8, B9, B11, B22, B56
Cases B15, B17, B19, B21

Cases 23, 31, 39, 47, 70
Cases 25, 33, 41, 49, 71
Cases 27, 35, 43, 51, 72
Cases 57, 58, 59, 60, 73
Cases 29, 37, 45, 53, 74

Cases A2, A5, A7, A16, A55
Cases A4, A6, A10, A13, A20
Cases A1, A3, A12, A14, A18
Cases A8, A9, A11, A22, A56
Cases A15, A17, A19, A21

AC / Vehicle Induced

ATC Induced

