

Revised Position of Y124

Gateway documentation:  
Stage 2 Develop and Assess

Step 2A document (ii)  
Design Principle Evaluation, Options Assessment  
V1.0

The NATS logo is positioned on the right side of the page. It consists of the word "NATS" in a bold, italicized, blue sans-serif font. The letters have a slight gradient and shadow effect. The logo is set against a background of two parallel, light blue curved lines that sweep across the page from the top left towards the bottom right, framing the logo.

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## Introduction

This document forms part of the document set in accordance with the requirements of the CAP1616 airspace change process.

This document aims to provide adequate evidence to satisfy Stage 2 Develop and Assess Gateway, Step 2A Design Principle Evaluation.

See Stage 1 Gateway Design Principles for full details of the proposed design principles for Y124. The CAA reference is ACP-2019-10.

It is advised that this document is read alongside the Stage 2A(i) Design Options Document which gives diagrams and descriptions of each option.

The following options are proposed for consideration:

- Option 0 – Baseline (do nothing)
- Option 1 – Amend MTA Times
- Option 2 – ATS Route Y124 to become RNAV1 & amend NWMTA/D201B Northern Boundary
- Option 3 – Move ATS Route North by 3 Miles – H24 Operations (RNAV 1)
- Option 4 – Move ATS Route North by 4.2 Miles – H24 Operations (RNAV 1)
- Option 5 – Move ATS Route North by 6.2 Miles – H24 Operations (RNAV 1)
- Option 6 – Flexible Use of Airspace (FUA) of NWMTA/D201B Northern Boundary – H24 Operations (RNAV 1)

## Options Assessment: Design Principle Evaluation

The description below summarises the impacts/benefits of the options evaluated. The degree to which the design principle has been met is indicated by the following colour coding:

A green box means	'this design principle has been met by the specified option'
An orange box means	'this design principle has been partially met by the specified option', or 'there would be no significant change'
A red box means	'this design principle has not been met by the specified option'

## What are the Assessment Criteria we used to evaluate the design options against the DPs?

Priority	Design Principle	Qualitative Criteria for Met, Partial, Not Met
A	DP 0 Safety (Safety is always the number one priority) Maintain or enhance current levels of safety	Met: No safety concerns Partial: Some safety concern Not Met: Significant safety concern
B	DP 1 Operational (Resilience) – The proposed Y124 airspace design will maintain or enhance operational resilience of the ATC network	Met: Likely to maintain or enhance operational resilience of ATC network Partial: Unlikely to enhance operational resilience, OR unable to be fully determine at this stage Not Met: Fails to maintain ATC operational resilience
B	DP 2 Operational (Capacity) – The proposed Y124 airspace will enhance benefits from additional systemisation	Met: There is likely to be enhancements to systemised airspace Partial: Likely to be beneficial to capacity but requires further work. Not Met: Unlikely to enhance capacity
B	DP 3 Operational (Support of Dublin Runway 2) – The proposed Y124 airspace design will provide a compatible interface with Dublin second parallel runway project	Met: Likely to provide a compatible interface. Partial: Interface may be constrained to some degree. Not Met: Interface not likely to be compatible.
B	DP 4 Economic (Network Performance) – The proposed Y124 airspace will facilitate optimised network route performance (Flight plannable H24)	Met: will facilitate optimised network route performance H24 Partial: will improve network route performance (not H24) Not Met: will not improve network route performance.
B	DP 5 Environmental (CO <sub>2</sub> emissions) – The proposed Y124 airspace will facilitate the reduction in CO <sub>2</sub> emissions per flight	Met: Highly likely to reduce CO <sub>2</sub> emissions per flight Partial: May enable some CO <sub>2</sub> emissions savings per flight Not Met: Does not reduce CO <sub>2</sub> emissions per flight
C	DP 6 Environmental (Impact to stakeholders on the ground) – Minimise environmental impacts to stakeholders on the ground	Met: No significant change to impacts to stakeholders on the ground (change above 7000ft) Partial: Some change impact to stakeholders on the ground (change below 7000ft) Not Met: Significant impact to stakeholders on the ground (change below 7000ft)
B	DP 7 Technical (MoD Requirements) – The proposed Y124 airspace will be compatible with the requirements of the MoD/QinetiQ	Met: There is likely to be agreement from MoD/QinetiQ stakeholders Partial: There may not be full agreement OR additional work is required to resolve Not Met: We expect significant disagreement by at least one stakeholder, with agreement unlikely to be reached
B	DP 8 Technical (Minimise CAS) – The volume of controlled airspace required for Y124 should be the minimum necessary to deliver an efficient airspace design, taking into account the en-route connectivity required for Dublin ANSP operation	Met: no new CAS required Partial; New CAS required, but minimal amount Not Met: Extensive new CAS required
B	DP 9 Technical (Use of PBN) – The Y124 airspace will enhance the use of PBN (RNAV 1 proposed)	Met: Very likely to enhance to use of PBN e.g. use of RNAV 1 Partial: limited enhanced use of PBN Not Met: Does not enhance the use of PBN
B	DP 10 Policy (CAA Requirements) – The Y124 design option will take cognisance of UK SUA Safety Buffer Policy & Controlled Airspace Containment Policy	Met: Complies with buffer policy Partial: Partially compliant Not Met: Does not comply with buffer policy
B	DP 11 Operational (Training) – The Y124 design minimises operational impact to airspace users (ATC/Airlines).	Met: No training required, or only quick briefings required. No adverse operational impacts Partial: Some training required, or some minor operational impact Not Met: Extensive training required or adverse operational impacts

## Option 0 – Baseline (do nothing) Design Principle Evaluation

Option Name: Baseline (do nothing)		<b>REJECT</b>	
<i>Description of option: Maintain the current route structure of ATS route Y124. No change to existing airspace, routes or traffic flows.</i>			
<b>DP 0 Safety (Safety is always the number one priority) (A)</b> Maintain or enhance current levels of safety			MET
<i>Safety maintained but not enhanced. DP is MET, but there is no improvement from today's operation</i>			
<b>DP 1 Operational (Resilience) (B)</b> The proposed Y124 airspace design will maintain or enhance operational resilience of the ATC network			MET
<i>Resilience maintained but not enhanced. DP is MET but there is no improvement from today's operation</i>			
<b>DP 2 Operational (Capacity) (B)</b> The proposed Y124 airspace will enhance benefits from additional systemisation	NOT MET		
<i>No enhancement to airspace</i>			
<b>DP 3 Operational (Support of Dublin Runway 2) (B)</b> The proposed Y124 airspace design will provide a compatible interface with Dublin second parallel runway project	NOT MET		
<i>No amendments to airspace design. Does not assist with current traffic demand nor Dublin growth.</i>			
<b>DP 4 Economic (Network Performance) (B)</b> The proposed Y124 airspace will facilitate optimised network route performance (Flight plannable H24)	NOT MET		
<i>Current route not permitted for H24 operations</i>			
<b>DP 5 Environmental (CO<sub>2</sub> Emissions) (B)</b> The proposed Y124 airspace will facilitate the reduction of CO <sub>2</sub> emissions per flight	NOT MET		
<i>No change from today's operation, therefore no reduction in CO<sub>2</sub> emissions per flight</i>			
<b>DP 6 Environmental (Impact to stakeholders on the ground) (C)</b> Minimise environmental impacts to stakeholders on the ground (all changes above 7,000ft)			MET
<i>No change from today's operation. DP is MET as this ACP is over the high seas</i>			
<b>DP 7 Technical (MoD Requirements) (B)</b> The Y124 airspace will be compatible with the requirements of the MOD/QinetiQ			MET
<i>No change from today's operation. Route remains off limits to civil traffic 08:00 – 18:00 therefore no MOD impact, so DP is MET</i>			
<b>DP 8 Technical (Minimise CAS) (B)</b> The volume of controlled airspace required for Y124 should be the minimum necessary to deliver an efficient airspace design, taking into account the en-route connectivity required for Dublin ANSP operation			MET
<i>No change from today's operation. No New CAS.</i>			
<b>DP 9 Technical (Use of PBN) (B)</b> The Y124 airspace will enhance the use of PBN. (RNAV 1 proposed)	NOT MET		
<i>DP is NOT MET as routes are currently utilising PBN (RNAV 5), maintaining the status quo will not enhance the use of PBN.</i>			

<b>DP 10: Policy (CAA Requirements) (B)</b> The Y124 design option will take cognisance of UK SUA Safety Buffer Policy & Controlled Airspace Containment Policy			MET
<i>No change from today's operation, but currently policies are adhered to by civil traffic. DP is MET</i>			
<b>DP 11: Operational (Training) (B)</b> The Y124 design minimises operational impact to airspace users (ATC/Airlines)			MET
<i>No change from today's operation, therefore no operational impact to ATC/Airlines</i>			

### Option 0 Conclusion

The baseline (do nothing) option does not support current levels of traffic demand, nor does it support the predicted growth that is forecasted from Dublin's 2<sup>nd</sup> parallel runway. Isle of Man and Lakes sectors will continue to see increased traffic demand as Y124 remains off limits to civil traffic between 08:00 – 18:00. For these reasons the 'do nothing' option is rejected.

## Option 1 – Amend MTA Times Design Principle Evaluation

Option Name: Amend MTA Times		ACCEPT	
<i>Description of option: Amend the activation times of the NWMTA to allow civil traffic increased usage of airspace on the first rotation of flights. 08:00-18:00 restricted access will move to 09:00-18:00</i>			
<b>DP 0 Safety (Safety is always the number one priority) (A)</b> Maintain or enhance current levels of safety			MET
<i>Additional hour of traffic for first rotation flights. Safety is maintained but not enhanced, therefore DP is MET</i>			
<b>DP 1 Operational (Resilience) (B)</b> The proposed Y124 airspace design will maintain or enhance operational resilience of the ATC network			MET
<i>Operational resilience is enhanced with additional hour's capacity for civil traffic</i>			
<b>DP 2 Operational (Capacity) (B)</b> The proposed Y124 airspace will enhance benefits from additional systemisation		PARTIAL	
<i>Systemisation enhancement for Dublin's first rotation of flights. DP is PARTIALLY MET – Extending the hours of use by one hour would represent a small improvement in capacity but only during the additional hour.</i>			
<b>DP 3 Operational (Support of Dublin Runway 2) (B)</b> The proposed Y124 airspace design will provide a compatible interface with Dublin second parallel runway project		PARTIAL	
<i>No change to Y124 route structure but does provide limited compatibility for Dublin second parallel runway. Limited scope for future proofing, therefore DP is PARTIAL MET due to the limited improvement only during the additional hour of availability.</i>			
<b>DP 4 Economic (Network Performance) (B)</b> The proposed Y124 airspace will facilitate optimised network route performance (Flight plannable H24)		PARTIAL	
<i>Partial since this option will not permit H24 operations.</i>			
<b>DP 5 Environmental (CO<sub>2</sub> Emissions) (B)</b> The proposed Y124 airspace will facilitate the reduction of CO <sub>2</sub> emissions per flight.			MET
<i>A reduction in CO<sub>2</sub> emissions per flight will be facilitated</i>			
<b>DP 6 Environmental (Impact to stakeholders on the ground) (C)</b> Minimise environmental impacts to stakeholders on the ground (all changes above 7,000ft)			MET
<i>Aircraft will remain on same route. DP is MET as this ACP is over the high seas</i>			
<b>DP 7 Technical (MoD Requirements) (B)</b> The Y124 airspace will be compatible with the requirements of the MOD/QinetiQ			MET
<i>This option is likely to be compatible with MoD requirements (but this is subject to ongoing engagement with the MOD)</i>			
<b>DP 8 Technical (Minimise CAS) (B)</b> The volume of controlled airspace required for Y124 should be the minimum necessary to deliver an efficient airspace design, taking into account the en-route connectivity required for Dublin ANSP operation			MET
<i>No change to the volume of controlled airspace, therefore DP is MET</i>			

<b>DP 9 Technical (Use of PBN) (B)</b> The Y124 airspace will enhance the use of PBN. (RNAV 1 proposed)	NOT MET		
<i>NOT MET as route will utilise current PBN (RNAV 5), but would not enhance PBN usage.</i>			
<b>DP 10: Policy (CAA Requirements) (B)</b> The Y124 design option will take cognisance of UK SUA Safety Buffer Policy & Controlled Airspace Containment Policy			MET
<i>Option is developed and engaged with stakeholders with compliance of SUA Buffer &amp; Controlled Airspace Containment Policies.</i>			
<b>DP 11: Operational (Training) (B)</b> The Y124 design minimises operational impact to airspace users (ATC/Airlines)			MET
<i>No change to Y124 route structure. Additional capacity provided for civil traffic on first rotation of flights</i>			

### Option 1 Conclusion

Civil traffic will benefit with an additional hour's utilisation of Y124 during the day's first rotation of flights. No geographical change to route structure so operational impact is minimised. Partial enhancements to airspace however there is limited scope for future proofing as traffic demand increases.

Option is accepted for progression, but is subject to continued engagement with MOD/QinetiQ as military is impacted upon with reduced hour of operations.



## Option 2 – Y124 to become RNAV 1 & amend NWMTA/D201B Northern Boundary Design Principle Evaluation

Option Name: Amend NWMTA/D201B Northern Boundary	<b>ACCEPT</b>		
<i>Description of option: Amend Northern Boundary of MTA areas, therefore enabling civil traffic to flight plan route Y124 on H24 operations. Independent use for both civil and military operations</i>			
<b>DP 0 Safety (Safety is always the number one priority) (A)</b> Maintain or enhance current levels of safety			MET
<i>Route would ease capacity constrained IOM/Lakes sectors and become RNAV 1 compliant, therefore enhancing safety.</i>			
<b>DP 1 Operational (Resilience) (B)</b> The proposed Y124 airspace design will maintain or enhance operational resilience of the ATC network			MET
<i>Operational resilience enhanced as route becomes flight planable H24.</i>			
<b>DP 2 Operational (Capacity) (B)</b> The proposed Y124 airspace will enhance benefits from additional systemisation			MET
<i>Enhanced systemisation through H24 flight plans. Additional capacity eases constrained IOM/Lakes sectors.</i>			
<b>DP 3 Operational (Support of Dublin Runway 2) (B)</b> The proposed Y124 airspace design will provide a compatible interface with Dublin second parallel runway project			MET
<i>Additional capacity for Dublin departures allows for greater SID flexibility for Dublin with no change to route structure. Future proof design, therefore DP is MET.</i>			
<b>DP 4 Economic (Network Performance) (B)</b> The proposed Y124 airspace will facilitate optimised network route performance (Flight planable H24)			MET
<i>Route network optimised as Y124 becomes H24 (RNAV 1), therefore DP is MET.</i>			
<b>DP 5 Environmental (CO<sub>2</sub> Emissions) (B)</b> The proposed Y124 airspace will facilitate the reduction of CO <sub>2</sub> emissions per flight			MET
<i>A reduction in CO<sub>2</sub> emissions per flight will be facilitated</i>			
<b>DP 6 Environmental (Impact to stakeholders on the ground) (C)</b> Minimise environmental impacts to stakeholders on the ground (all changes above 7,000ft)			MET
<i>Aircraft will remain on same route. DP is MET as this ACP is over the high seas</i>			
<b>DP 7 Technical (MoD Requirements) (B)</b> The Y124 airspace will be compatible with the requirements of the MOD/QinetiQ		PARTIAL	
<i>Design option is subject to ongoing engagement with the MOD and requires additional work, therefore DP is PARTIALLY MET</i>			
<b>DP 8 Technical (Minimise CAS) (B)</b> The volume of controlled airspace required for Y124 should be the minimum necessary to deliver an efficient airspace design, taking into account the en-route connectivity required for Dublin ANSP operation			MET
<i>Amendments made to MTA airspace volume, no change for Y124 route.</i>			

<b>DP 9 Technical (Use of PBN) (B)</b> The Y124 airspace will enhance the use of PBN. (RNAV 1 proposed)			MET
<i>Routes will become RNAV 1 compatible, therefore enhancing PBN</i>			
<b>DP 10: Policy (CAA Requirements) (B)</b> The Y124 design option will take cognisance of UKK SUA Safety Buffer Policy & Controlled Airspace Containment Policy			MET
<i>Option is developed and engaged with stakeholders with compliance of SUA Buffer &amp; Controlled Airspace Containment Policies.</i>			
<b>DP 11: Operational (Training) (B)</b> The Y124 design minimises operational impact to airspace users (ATC/Airlines)		PARTIAL	
<i>Minimal civil training required as MTA volume airspace is amended. Some Military training may be required.</i>			

### Option 2 Conclusion

Route becomes flight plannable H24, allowing independent use for civil traffic, but with no change to the route structure. As a result of the additional capacity, pressure would be relived on IOM/Lakes sectors. Design option would require revised ATC procedures but is accepted for progression, subject to continued engagement with MOD/QinetiQ as military is impacted upon with reduced MTA volume.

### Option 3 – Move Y124 North by 3 Miles – H24 Operations (RNAV 1) Design Principle Evaluation

Option Name: Move Y124 North by 3 Miles		<b>ACCEPT</b>	
<i>Description of option: ATS Route Y124 will move north by 3 miles, 7nm south of Q36. Complies with CAP1385 route separation and becomes flight planable H24 (RNAV 1). Operators will benefit with fuel savings as Dublin departures can be appropriately distributed based on flight plan. Allows MOD to activate MTA without reference to civil operators.</i>			
<b>DP 0 Safety (Safety is always the number one priority) (A)</b> Maintain or enhance current levels of safety			MET
<i>Safety maintained</i>			
<b>DP 1 Operational (Resilience) (B)</b> The proposed Y124 airspace design will maintain or enhance operational resilience of the ATC network			MET
<i>Operational resilience enhanced as Y124 becomes H24</i>			
<b>DP 2 Operational (Capacity) (B)</b> The proposed Y124 airspace will enhance benefits from additional systemisation			MET
<i>Systemisation benefits as additional capacity eases IOM/Lakes sectors</i>			
<b>DP 3 Operational (Support of Dublin Runway 2) (B)</b> The proposed Y124 airspace design will provide a compatible interface with Dublin second parallel runway project			MET
<i>Compatible interface with Dublin enabling greater flexibility for SID distribution</i>			
<b>DP 4 Economic (Network Performance) (B)</b> The proposed Y124 airspace will facilitate optimised network route performance (Flight planable H24)			MET
<i>Route network optimised as Y124 becomes H24 (RNAV 1), therefore DP is MET.</i>			
<b>DP 5 Environmental (CO<sub>2</sub> Emissions) (B)</b> The proposed Y124 airspace will facilitate the reduction of CO <sub>2</sub> emissions per flight			MET
<i>A reduction in CO<sub>2</sub> emissions per flight will be facilitated</i>			
<b>DP 6 Environmental (Impact to stakeholders on the ground) (C)</b> Minimise environmental impacts to stakeholders on the ground (all changes above 7,000ft)			MET
<i>Aircraft will adopt new route, but will remain at FL195+. Minimal impact to stakeholders on the ground as changes are above 7,000ft and are over the high seas</i>			
<b>DP 7 Technical (MoD Requirements) (B)</b> The Y124 airspace will be compatible with the requirements of the MOD/QinetiQ		PARTIAL	
<i>Design option is subject to ongoing engagement with the MOD and requires additional work, therefore DP is PARTIALLY MET</i>			
<b>DP 8 Technical (Minimise CAS) (B)</b> The volume of controlled airspace required for Y124 should be the minimum necessary to deliver an efficient airspace design, taking into account the en-route connectivity required for Dublin ANSP operation			MET
<i>Route becomes RNAV 1, minimising the volume of controlled airspace required. MTA airspace unaffected.</i>			

<b>DP 9 Technical (Use of PBN) (B)</b> The Y124 airspace will enhance the use of PBN. (RNAV 1 proposed)			MET
<i>PBN enhanced as route becomes RNAV 1</i>			
<b>DP 10: Policy (CAA Requirements) (B)</b> The Y124 design option will take cognisance of UKK SUA Safety Buffer Policy & Controlled Airspace Containment Policy			MET
<i>Option is developed and engaged with stakeholders with compliance of SUA Buffer &amp; Controlled Airspace Containment Policies.</i>			
<b>DP 11: Operational (Training) (B)</b> The Y124 design minimises operational impact to airspace users (ATC/Airlines)			MET
<i>Minimal training/Briefings required for civil and MOD as new route is established with new COP point.</i>			

### Option 3 Conclusion

ATS Route Y124 becomes flight plannable H24, providing additional capacity and greater flexibility for Dublin in SID traffic distribution. This will bring systemisation benefits to IOM/Lakes sectors as traffic is eased. Route will require a new COP point for DEXEN in addition to a new Dublin SID. As a result in the geographical change of the route, training will be required for ATC/Airlines. Military will also need to be briefed of Y124 changes.

Option is accepted for progression, but is subject to continued engagement with MOD/QinetiQ.

## Option 4 – Move Y124 North by 4.2 Miles – H24 Operations (RNAV 1) Design Principle Evaluation

Option Name: Move Y124 North by 4.2 Miles	<b>REJECT</b>		
<i>Description of option: ATS Route Y124 will move north by 4.2 miles, 5.8nm south of Q36. Complies with CAP1385 route separation and becomes flight planable H24 (RNAV 1). New ATS route and waypoint required alongside updated ATC/Airline procedures. Operators will benefit with fuel savings as Dublin departures can be appropriately distributed based on flight plan. Allows MOD to activate MTA without reference to civil operators.</i>			
<b>DP 0 Safety (Safety is always the number one priority) (A)</b> Maintain or enhance current levels of safety	<b>NOT MET</b>		
<i>ATC Radar monitoring tools not currently in place to support 5.8nm separation between Y124 and Q36. DP is NOT MET</i>			
<b>DP 1 Operational (Resilience) (B)</b> The proposed Y124 airspace design will maintain or enhance operational resilience of the ATC network			<b>MET</b>
<i>Operational resilience enhanced as Y124 becomes H24</i>			
<b>DP 2 Operational (Capacity) (B)</b> The proposed Y124 airspace will enhance benefits from additional systemisation			<b>MET</b>
<i>Systemisation benefits as additional capacity eases IOM/Lakes sectors</i>			
<b>DP 3 Operational (Support of Dublin Runway 2) (B)</b> The proposed Y124 airspace design will provide a compatible interface with Dublin second parallel runway project			<b>MET</b>
<i>Compatible interface with Dublin enabling greater flexibility for SID distribution</i>			
<b>DP 4 Economic (Network Performance) (B)</b> The proposed Y124 airspace will facilitate optimised network route performance (Flight planable H24)			<b>MET</b>
<i>Route network optimised as Y124 becomes H24 (RNAV 1), therefore DP is MET.</i>			
<b>DP 5 Environmental (CO<sub>2</sub> Emissions) (B)</b> The proposed Y124 airspace will facilitate the reduction of CO <sub>2</sub> emissions per flight			<b>MET</b>
<i>A reduction in CO<sub>2</sub> emissions per flight will be facilitated</i>			
<b>DP 6 Environmental (Impact to stakeholders on the ground) (C)</b> Minimise environmental impacts to stakeholders on the ground (all changes above 7,000ft)			<b>MET</b>
<i>Aircraft will adopt new route, but will remain at FL195+. Minimal impact to stakeholders on the ground as changes are above 7,000ft and are over the high seas</i>			
<b>DP 7 Technical (MoD Requirements) (B)</b> The Y124 airspace will be compatible with the requirements of the MOD/QinetiQ		<b>PARTIAL</b>	
<i>Design option is subject to ongoing engagement with the MOD and requires additional work, therefore DP is PARTIALLY MET</i>			
<b>DP 8 Technical (Minimise CAS) (B)</b> The volume of controlled airspace required for Y124 should be the minimum necessary to deliver an efficient airspace design, taking into account the en-route connectivity required for Dublin ANSP operation			<b>MET</b>
<i>Route becomes RNAV 1, minimising the volume of controlled airspace required. MTA airspace unaffected.</i>			

<b>DP 9 Technical (Use of PBN) (B)</b> The Y124 airspace will enhance the use of PBN. (RNAV 1 proposed)			MET
<i>PBN enhanced as route becomes RNAV 1</i>			
<b>DP 10: Policy (CAA Requirements) (B)</b> The Y124 design option will take cognisance of UKK SUA Safety Buffer Policy & Controlled Airspace Containment Policy			MET
<i>Option is developed and engaged with stakeholders with compliance of SUA Buffer &amp; Controlled Airspace Containment Policies.</i>			
<b>DP 11: Operational (Training) (B)</b> The Y124 design minimises operational impact to airspace users (ATC/Airlines)	NOT MET		
<i>Does not comply with current ATC radar monitoring tools and will not be supported with future ATC systems. Significant operational impact to ATC, therefore DP is NOT MET.</i>			

#### Option 4 Conclusion

The movement of Y124 north by 4.2 miles enables flight plannable H24 operations for civil traffic and allows the MOD to activate NWMTA/D201B airspace without reference to civil operators. Crucially however, the ATC radar monitoring tools in place do not support route spacing of 5.8nm between Y124 and Q36. This option is therefore rejected as DP 0 Safety (Priority A) and DP 11 Operational Training is not met. Safety is always the number one priority.

## Option 5 – Move Y124 North by 6.2 Miles – H24 Operations (RNAV 1) Design Principle Evaluation

Option Name: Move Y124 North by 6.2 Miles	<b>REJECT</b>		
<i>Description of option: ATS Route Y124 will move north by 6.2 miles, 3.8nm south of Q36. Complies with CAP1385 route separation and becomes flight planable H24 (RNAV 1). New ATS route and waypoint required alongside updated ATC/Airline procedures. Operators will benefit with fuel savings as Dublin departures can be appropriately distributed based on flight plan. Allows MOD to activate MTA without reference to civil operators.</i>			
<b>DP 0 Safety (Safety is always the number one priority) (A)</b> Maintain or enhance current levels of safety	<b>NOT MET</b>		
<i>Requires ATC to adopt 3nm route separation between Y124 and Q36 which is not currently supported. DP is therefore NOT MET</i>			
<b>DP 1 Operational (Resilience) (B)</b> The proposed Y124 airspace design will maintain or enhance operational resilience of the ATC network			<b>MET</b>
<i>Operational resilience enhanced as Y124 becomes H24</i>			
<b>DP 2 Operational (Capacity) (B)</b> The proposed Y124 airspace will enhance benefits from additional systemisation			<b>MET</b>
<i>Systemisation benefits as additional capacity eases IOM/Lakes sectors</i>			
<b>DP 3 Operational (Support of Dublin Runway 2) (B)</b> The proposed Y124 airspace design will provide a compatible interface with Dublin second parallel runway project			<b>MET</b>
<i>Compatible interface with Dublin enabling greater flexibility for SID distribution</i>			
<b>DP 4 Economic (Network Performance) (B)</b> The proposed Y124 airspace will facilitate optimised network route performance (Flight planable H24)			<b>MET</b>
<i>Route network optimised as Y124 becomes H24 (RNAV 1), therefore DP is MET.</i>			
<b>DP 5 Environmental (CO<sub>2</sub> Emissions) (B)</b> The proposed Y124 airspace will facilitate the reduction of CO <sub>2</sub> emissions per flight			<b>MET</b>
<i>A reduction in CO<sub>2</sub> emissions per flight will be facilitated</i>			
<b>DP 6 Environmental (Impact to stakeholders on the ground) (C)</b> Minimise environmental impacts to stakeholders on the ground (all changes above 7,000ft)			<b>MET</b>
<i>Aircraft will adopt new route, but will remain at FL195+. Minimal impact to stakeholders on the ground as changes are above 7,000ft and are over the high seas</i>			
<b>DP 7 Technical (MoD Requirements) (B)</b> The Y124 airspace will be compatible with the requirements of the MOD/QinetiQ		<b>PARTIAL</b>	
<i>Design option is subject to ongoing engagement with the MOD and requires additional work, therefore DP is PARTIALLY MET</i>			
<b>DP 8 Technical (Minimise CAS) (B)</b> The volume of controlled airspace required for Y124 should be the minimum necessary to deliver an efficient airspace design, taking into account the en-route connectivity required for Dublin ANSP operation			<b>MET</b>
<i>Route becomes RNAV 1, minimising the volume of controlled airspace required. MTA airspace unaffected.</i>			

<b>DP 9 Technical (Use of PBN) (B)</b> The Y124 airspace will enhance the use of PBN. (RNAV 1 proposed)			MET
<i>PBN enhanced as route becomes RNAV 1</i>			
<b>DP 10: Policy (CAA Requirements) (B)</b> The Y124 design option will take cognisance of UKK SUA Safety Buffer Policy & Controlled Airspace Containment Policy			MET
<i>Option is developed and engaged with stakeholders with compliance of SUA Buffer &amp; Controlled Airspace Containment Policies.</i>			
<b>DP 11: Operational (Training) (B)</b> The Y124 design minimises operational impact to airspace users (ATC/Airlines)	NOT MET		
<i>Significant impact to ATC – cannot currently support 3nm route separation between Y124 and Q36. Requires additional ATC workload to vector aircraft. DP is NOT MET.</i>			

### Option 5 Conclusion

Movement of Y124 further north to 6.2 miles of its current location delivers similar benefits to option 4, but with increased distance from the NWMTA/D201B airspace. However, while the reduced separation between Y124 and Q36 of 3.8nm is compliant with CAP1385 policy, the current ATC systems in place does not support operating in a 3nm environment.

Therefore, as DP 0 Safety (Priority A) and DP 11 Operational Training (Priority B) is not met, this option is rejected. Safety is always the number one priority.



## Option 6 – Flexible Use of Airspace (FUA) of NWMTA/D201B Northern Boundary – H24 Operations (RNAV 1) Design Principle Evaluation

Option Name: Sub-divide MTA Northern boundaries (FUA)	<b>ACCEPT</b>		
<i>Description of option: Sub-divide Northern Boundary of MTA areas and allow Flexible Use of Airspace (FUA) between civil and military operators. This enables civil traffic to flight plan route Y124 on H24 operations when there is no military demand. MTA activation available when military require use of the airspace.</i>			
<b>DP 0 Safety (Safety is always the number one priority) (A)</b> Maintain or enhance current levels of safety			MET
<i>Safety maintained</i>			
<b>DP 1 Operational (Resilience) (B)</b> The proposed Y124 airspace design will maintain or enhance operational resilience of the ATC network			MET
<i>Operational resilience enhanced as Y124 becomes H24, subject to military operational demand. Agreed tactical or planned sharing of airspace required between civil and military</i>			
<b>DP 2 Operational (Capacity) (B)</b> The proposed Y124 airspace will enhance benefits from additional systemisation			MET
<i>Systemisation benefits as additional capacity eases IOM/Lakes sectors</i>			
<b>DP 3 Operational (Support of Dublin Runway 2) (B)</b> The proposed Y124 airspace design will provide a compatible interface with Dublin second parallel runway project			MET
<i>Compatible interface with Dublin enabling greater flexibility for SID distribution</i>			
<b>DP 4 Economic (Network Performance) (B)</b> The proposed Y124 airspace will facilitate optimised network route performance (Flight plannable H24)			MET
<i>Route network optimised as Y124 becomes H24 (RNAV 1) subject to military demand, therefore DP is MET</i>			
<b>DP 5 Environmental (CO<sub>2</sub> Emissions) (B)</b> The proposed Y124 airspace will facilitate the reduction of CO <sub>2</sub> emissions per flight			MET
<i>A reduction in CO<sub>2</sub> emissions per flight will be facilitated</i>			
<b>DP 6 Environmental (Impact to stakeholders on the ground) (C)</b> Minimise environmental impacts to stakeholders on the ground (all changes above 7,000ft)			MET
<i>Aircraft will remain on same route. DP is MET as this ACP is over the high seas</i>			
<b>DP 7 Technical (MoD Requirements) (B)</b> The Y124 airspace will be compatible with the requirements of the MOD/QinetiQ		PARTIAL	
<i>Design option is subject to ongoing engagement with the MOD and requires additional work, therefore DP is PARTIALLY MET</i>			
<b>DP 8 Technical (Minimise CAS) (B)</b> The volume of controlled airspace required for Y124 should be the minimum necessary to deliver an efficient airspace design, taking into account the en-route connectivity required for Dublin ANSP operation			MET
<i>Flexible sub-division of civil/military airspace volume, no change for Y124 route structure. Route becomes RNAV 1</i>			

<b>DP 9 Technical (Use of PBN) (B)</b> The Y124 airspace will enhance the use of PBN. (RNAV 1 proposed)			MET
<i>PBN enhanced as route becomes RNAV 1</i>			
<b>DP 10: Policy (CAA Requirements) (B)</b> The Y124 design option will take cognisance of UKK SUA Safety Buffer Policy & Controlled Airspace Containment Policy			MET
<i>Option is developed and engaged with stakeholders with compliance of SUA Buffer &amp; Controlled Airspace Containment Policies.</i>			
<b>DP 11: Operational (Training) (B)</b> The Y124 design minimises operational impact to airspace users (ATC/Airlines)		PARTIAL	
<i>Updated ATC/Airline procedures required for sub-divide of airspace. Military training also required. Tactical or planned sharing of airspace must be agreed between civil and military. DP is PARTIAL MET.</i>			

### Option 6 Conclusion

Option 6 is much the same to Option 2 and delivers similar benefits, however rather than a permanent amendment to the MTA northern boundaries, this option sub-divides the airspace between civil and military to cater to airspace demand. The route will generate extra capacity by becoming flight plannable H24 (RNAV 1), subject to MTA activation upon military demand. Both civil and military will require training on the amended procedures and will need to ensure agreements are made on either the tactical or planned sharing of airspace.

Option 6 is accepted for progression, but is subject to continued engagement with MOD/QinetiQ as the military are impacted by the proposed reduced MTA volume.

### Conclusion and Shortlist

The design options have been evaluated following comprehensive engagement both internally and with external stakeholders. From this evaluation the following options are being short-listed, and progressed for further consideration:

- Option 1 (Amend MTA Times),
- Option 2 (Amend NWMTA/D201B Northern Boundary),
- Option 3 (Move Y124 North by 3 Miles) and
- Option 6 (Sub-divide NWMTA/D201B Northern Boundaries (FUA)).

The engagement between NATS and MOD/QinetiQ will continue regarding these 4 concept options to identify the best option for implementation that meets to the needs of both sponsor and stakeholders.

These options will be formally appraised under Stage 2 Step 2B Options Appraisal (Phase 1 Initial) including Safety Assessment.

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