SAR Framework Review
Report from the SAR Framework Review Group June 2019
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1. Executive summary

On foot of an Air Accident Investigation Unit interim report (No.2018-004) into the R116 accident at Blacksod in March 2017, the Minister for Transport, Tourism and Sport commissioned an independent review of oversight arrangements for SAR aviation operations in Ireland. Following publication of the AQE Report in September 2018, the Minister committed to implement in full and without delay the 12 recommendations contained in the report. In that context, he instigated a review of the National SAR Framework to take account of the report’s findings. The Irish SAR Framework Review Group (SARFReG), under the chairmanship of Sir Alan Massey, commenced its work in November 2018 and has now completed its report in June 2019. This report presents the terms of reference, methodology and conclusions of this work, along with principal deliverables sought from the review process.

The first deliverable is a revised National SAR Plan (NSP), which is appended to the report. This new NSP provides for a re-balancing of the previous maritime-centric SAR Framework to encompass both aeronautical and land SAR more comprehensively; it provides for more explicit governance, assurance and oversight roles across the SAR system; it reconfigures and re-names the previous Irish Aeronautical and Maritime Emergency Advisory Committee as a more strategic National SAR Committee with a leaner, more coherent set of sub-committees. It also provides for a clearer description of the National SAR system including roles, inter-relationships and responsibilities from strategic through tactical to operational levels; and it sets out guidance to develop a common approach to managing SAR incidents across all three domains (including the transition from search and rescue to search and recovery).

The NSP will be delivered on a phased basis over the next 18 months, as set out in Chapter 5. This will enable a managed and integrated approach to the revised SAR structures and to the development of the necessary MoUs and SLAs between SAR stakeholders, both horizontally and vertically, within the system.

The second deliverable is an implementation plan for the recommended model for a Joint Rescue Coordination Centre (JRCC). This “virtual” JRCC will capitalise on the strengths of the current ARCC/ARSC and MRCC/MRSC model, while minimising disruption and exploiting the potential of enhanced technology, closer cooperation and revised operating procedures. It will also address vulnerabilities identified in the existing model, and provide for stronger oversight arrangements (see Chapter 4b and Appendix E).

The report also sets out revised arrangements for overseeing the international SAR agreement between the IRCG and UK’s MCA (chapter 4c). The SARFReG was further asked to address two recommendations arising from the Marine Casualty Investigation Board’s report on the 2016 fatal IRCG boat accident in Kilkee, drawing on international peer support and advice. The relevant chapter describes how these recommendations have been considered and addressed in the new IRCG SOPs and are reflected in the text of the new NSP (Chapter 4d).

The report also describes progress made across other pertinent areas, including those AQE recommendations not specifically included in the SARFReG’s terms of reference (chapter 4e and chapter 6) as they are relevant to the overall coherence of the NSP. The process of reviewing the overall SAR Framework for Ireland has yielded further “spin-off” benefits not specifically anticipated in the original terms of reference, for example the good work recently undertaken by the IRCG to improve the rigour of safety standards and compliance generally. Chapter 7 of this report identifies those benefits – principally around promoting a more engaged and integrated SAR system and a strong set of continuous improvement measures within the IRCG.
Finally, the SARFReG recommends that, in addition to the NSARC’s specific role in overseeing the implementation of the NSP itself, a wider oversight role is required within DTTAS to ensure this NSP is implemented in full and the additional spin-off measures described in Chapter 7 are carried through. Chapter 5 sets out a recommendation in this regard.

The SARFReG was assisted by Frazer Nash Consultants, who provided independent expertise and supporting analysis. Their submissions underpin the findings of this report and the direction taken in developing the new NSP and selecting the most appropriate JRCC model for Ireland. The Frazer Nash analysis of the Framework is appended.
2. Terms of reference and work programme

In its interim report (No.2018-004) into the R116 accident at Blacksod in March 2017, the Air Accident Investigation Unit called on the Minister for Transport, Tourism and Sport to carry out a thorough review of SAR aviation operations in Ireland to ensure that there are appropriate processes, resources and personnel in place to provide effective, continuous, comprehensive and independent oversight of all aspects of these operations. This review was completed and the AQE Report was published on 21 September 2018.

Following publication, the Minister committed to implement in full and without delay the 12 recommendations contained in the report. In that context, he instigated a review of the National SAR Framework to take account of the report’s findings. The review encompasses 5 of the 12 AQE Report recommendations in its terms of reference (i.e. Recommendations 5, 6, 7, 9 and 11 – see Appendix A). The follow-up to the other recommendations in the AQE report were included in an Action Plan agreed by the Minister for Transport, Tourism and Sport in September 2018. While separate to the SAR Framework Review process, progress on these actions is also addressed within this report for completeness.

A SAR Framework Review Group (SARFReG) was established in November 2018 under the independent chairmanship of Sir Alan Massey (ex-CEO of the UK’s Maritime and Coastguard Agency) to address the relevant AQE recommendations. The remit of the Group was subsequently broadened by the Minister in December to incorporate 2 further recommendations arising from the Marine Casualty Investigation Board report into the fatal accident in Kilkee involving a Coast Guard boat. External expertise (Frazer Nash Consultants) was also procured to provide independent expertise to the Review Group. This expertise was in place from February 2019.

The SARFReG agreed the work programme set out in Appendix B to deliver on its terms of reference, and this was agreed by a Steering Group comprising the Assistant Secretaries responsible for Aviation and Maritime Policy in the Department. As a strategic priority, the Review Group was guided by an implicit need to improve key aspects of governance, oversight and assurance within the Irish SAR organisation in order to better manage risk, enhance safety, clarify accountabilities and embed an ethos of continuous improvement.

The eight key outputs expected from the Review have been delivered – see box below. In addition, Chapter 7 describes some additional benefits achieved through this process.

<table>
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<tr>
<th>Key Outputs</th>
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<td>1. A revised SAR Framework document (now referred to as the National SAR Plan);</td>
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<td>2. A robust and sustainable mechanism to ensure the regular assurance of standards and practices, and oversight of the SAR system;</td>
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<td>3. A newly reconstituted IAMEAC (now called the National SAR Committee) in place by July 2019 to reflect the new NSP approach, under an independent chairperson and with representation at appropriately senior level amongst the member organisations;</td>
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<td>4. An Implementation Plan for the recommended Joint Rescue Coordination Centre (JRCC) model, along with a reinforced oversight regime for aviation aspects of the model;</td>
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<td>5. A revised International Agreement with the UK MCA, addressing the oversight of exercises and training and with a review mechanism incorporated into the NSP;</td>
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<td>6. The first SAR Stakeholders’ Workshop around the new NSP;</td>
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<td>7. Standard Operating Procedures and guidance material for IRCG operations aligned with IAMSAR guidance, reflecting international best practice and specifically addressing the two MCIB recommendations on boat launching and Search and Recovery;</td>
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<td>8. A comprehensive report from the SARFReG, encompassing specific terms of reference for this review and reporting on progress on the wider AQE action plan</td>
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3. Methodology

In order to deliver on this review, the SAR Framework Review Group was established in November 2018. It has met on 7 occasions. Composition of the group is set out in Appendix B. The SARFReG agreed a comprehensive work programme to deliver on its terms of reference and established a JRCC subgroup specifically to deliver on recommendations 6 and 7 of the AQE Report. A number of site visits were organised involving the Chairperson and Frazer Nash Consultants with key stakeholders. A visit was also organised to UK’s NMOC to examine how the UK MCA’s RCC model works in practice.

Two workshops were organised in relation to key elements of the review – one on communications between SAR stakeholders (on 25 April) and a second with all SAR stakeholders including members of IAMEAC (on 16 May) to take forward the draft National SAR Plan. A key element of the review process has been consultation with IAMEAC, as the over-arching coordinating committee for the National SAR Framework, and other relevant stakeholders. The Chairperson met IAMEAC on 9 January, reported on progress in March and subsequently hosted an interactive workshop on 16 May which focussed on the key innovations in the new draft Plan. This was the first time a workshop of all SAR stakeholders had been held and represented a major milestone in the process. It was decided to rename the IAMEAC as the National SAR Committee in line with internationally recognised terminology.

For the MCIB recommendations, it was agreed that in the absence of specific IAMSAR or other internationally accepted guidance on boat launching or the transition to search and recovery, the IRCG’s work in this regard should be subject to international peer review. Peer reviewers from Sweden, New Zealand and Canada took part in this process.

Finally, Frazer Nash Consultants were procured to offer independent and objective advice and expertise to the review process. Their analysis has been vital to ensure that the outputs in terms of the new National SAR Plan and the proposed JRCC model are consistent with international requirements and best practice. Their analysis work is appended.

The SARFReG Chairperson provided regular reports on progress to a Steering Group comprising Assistant Secretaries responsible for the Maritime and Aviation sectors in DTTAS. This Steering Group is also monitoring progress on the wider AQE Report Action Plan agreed by the Minister. Periodic reports were also provided to the Department’s Management Board and the Minister.
4. Conclusions

**a) New National SAR Plan – key gaps, features and innovations**

A key output of this review is a revised version of the existing SAR Framework document (linked on DTTaS website: http://www.dttas.ie/maritime/english/irish-national-maritime-search-and-rescue-sar-framework).

The resultant, new National SAR Plan appended to this report is based largely on the findings of a comparative analysis conducted by Frazer Nash consultants against IAMSAR requirements, best practice models in other jurisdictions and the views and inputs from the SAR stakeholder consultation.

The FNC analysis focussed primarily on the key organisations referred to in the AQE report – the IAA and the IRCG. However, they have also examined roles and responsibilities assigned to the Framework structures, including IAMEAC (now the National SAR Committee) and other committees and sub-groups, with a view to ensuring greater coherence within the new National SAR Plan.

As regards other SAR organisations identified in the SAR Framework document, the consultants were also asked to scope their roles and responsibilities in the context of a comprehensive National SAR Plan and to identify in particular any significant gaps in safety oversight. Given the number and diversity of these organisations, this work remains under detailed development, although the principles and minimum standards of safety assurance have been agreed and included in the main NSP text. The analysis also sought to identify roles and responsibilities not currently being fulfilled that need to be assigned to organisations not included in the existing SAR Framework. This included expanding the references to relevant investigation bodies such as the Marine Casualty Investigation Board, and to relevant regulatory bodies such as the Marine Survey Office and Road Safety Authority, along with the IAA.

The new NSP splits out key roles and responsibilities in terms of strategic (“what, why and how well”), tactical (“who manages and coordinates SAR activities”) and operational (“who conducts the missions and how they interact”). While there is some overlap in terms of the entities involved, this delineation is important in terms of determining responsibilities at each level. There has been much effort applied to developing a common lexicon and understanding of key terms used in the NSP. FNC has developed an extensive glossary to improve the understanding of SAR terminology, and this will be uniformly applied across all relevant guidance and operations manuals associated with the new NSP to ensure consistency of language and meaning.

It is envisaged that the NSP will ultimately be signed off by the primary SAR stakeholders (IRCG, IAA and An Garda Síochána) and endorsed by the Minister for Transport, Tourism and Sport.

SARFReG recommends that the NSP be implemented on a phased basis as outlined in Chapter 5 to ensure optimal impact. This is particularly important to ensure a managed and integrated approach to the revised SAR structures and to the development of MoUs and SLAs both horizontally and vertically within the system.

**i) Re-balancing across the three SAR domains**

A key finding in the AQE report was that the existing Framework document was perceived to be a “Maritime-centric” document and that to serve as a truly “National” SAR Plan which meets IAMSAR requirements, the aeronautical and land SAR domains should be given greater emphasis. IAMSAR guidance is a product of IMO and ICAO collaboration in the maritime and aeronautical domains.

There are no international conventions relating to Land SAR, and it is recognised that IAMSAR guidelines may not be an exact fit for the management and operating procedures within the AGS. However, it is accepted that the IAMSAR principles of SAR incident management are transferable...
to the land SAR domain and that the AGS are in a position to adopt and embed these insofar as practicable within their operating procedures. As set out in Chapter 7, the engagement of the AGS and the integration of Land SAR more explicitly in the NSP has been a major spin-off benefit of this process.

The “re-balancing” of ownership of the Plan has been a guiding principle in the deliberations of the SAR Framework Review Group. It underpins many of the structural changes proposed, particularly in terms of the new National SAR Committee and sub-structures.

ii) More explicit governance, assurance and oversight roles

A major Review theme relates to roles and responsibilities within the NSP and particularly the governance and oversight roles which featured strongly in the AQE report. A new NSP chapter captures how SAR policy is set, responsibilities are assigned, performance is monitored and managed and how the primary SAR stakeholders are overseen, including from a regulatory perspective where relevant. This includes a definition of 'oversight' itself, which the SARFReG felt was vital to the document.

This new chapter covers policy, performance and oversight roles - how and where these are vested. It also includes a new element of assurance set out under the "Assurance, Risk Management and Safety Culture" section. This approach is adapted from the New Zealand SAR model of "system assurance" and places an onus on all participants to provide annual assurances across key areas. While this does not obviate or supplant any statutory or other formal requirements, it provides a mechanism for routinely assuring a minimum set of requirements are in place in relation to safety management and oversight across the SAR system. Essentially, it requires all SAR stakeholders to implement a range of measures along the principles of risk assessment, safety management and continuous system improvement. Collectively, these measures represent an improved level of assurance in relation to the overall system. A key principle embedded in this assurance mechanism is that it should be proportionate to the scale and complexity of the organisations involved – so that smaller voluntary SAR units are not subject to the same degree of administrative scrutiny as a larger, professional SAR stakeholder.

As a support mechanism to the new SAR assurance system, the NSP establishes a new SAR Regulators’ Forum and a new Health and Safety Forum. The first does not exist in any of the other national SAR plans so far examined. It is intended to sit alongside the National SAR Committee and act in an advisory capacity. It will review the SAR system assurance reports, share regulatory best practice and inform further enhancements of this system. It will report to the Minister as necessary in relation to regulatory compliance matters arising and offer advice when requested by the Minister.

The aim of the Health and Safety Forum is to encourage a collaborative and cooperative approach among the primary SAR stakeholders and service providers to health and safety issues in the SAR sector. Its membership will be agreed by the National SAR Committee to include experts in health and safety management within the main SAR service providers. This model exists and works well in other jurisdictions but is new to the Irish system.

Finally, the National SAR Committee has also been assigned a role to monitor and review the adequacy of this enhanced mechanism for assurance. In that context, it will ensure the following activities are carried out:

- Regular reviews and updates of SAR agreements internationally;
- Regular reviews of MoUs / SLAs between SAR system participants;
- Provision of submissions (as appropriate) to the ICAO / IMO Joint Working Group on SAR to share lessons learned and experiences with other States for the continuous improvement of the worldwide SAR system;
- Regular analysis of SAR operational data to identify trends and areas of improvement and a commitment to make this information available to the wider SAR system through the National SAR Committee;
• Annual review of the SAR system to identify any specific gaps in capability and/or areas for improvement against minimum requirements of relevant international conventions and guidelines (including Annex H of IAMSAR manual) (IAMSAR);
• Other initiatives to promote system assurance through consultation with the Regulatory Forum and/or the Health and Safety Working Group.

In establishing a mechanism to provide appropriate assurance to the Minister and the National SAR Committee, it is also important to recognise the excellent work that has been done recently, in particular within the IRCG, to address safety management issues identified (see Chapter 7 for more details).

For the first time, the NSP identifies SAR regulatory roles more precisely – including those of the IAA SRD, MSO and RSA. It also identifies across the SAR system what oversight arrangements are in place, from the strategic/policy level to the tactical and operational elements of the system. There remain potential overlaps here which the NSP implementation process should help to iron out.

The formal introduction of regulatory involvement in the Irish SAR system represents a significant enhancement to the existing Framework and remains a work in progress, which the SAR Regulatory Forum will have a key role in driving forward.

iii) A more strategic National SAR Committee (NSARC) and a leaner set of sub-committees

A key element in the existing SAR Framework document is the various structures which are established to bring stakeholders together and add value to the process. IAMEAC member organisations were consulted on the role of IAMEAC at the outset of this review, and their views have been taken into account in the re-configured National SAR Committee (NSARC) model proposed in the new NSP.

The newly titled NSARC will provide strategic coordination, guidance and leadership for Ireland’s National SAR organisation. It will meet at least three times a year, reporting to the Minister for Transport, Tourism and Sport annually and for consideration as the situation requires. Its new terms of reference give it a more explicitly strategic role, including in particular the key objective of ‘reviewing the performance and adequacy of the National SAR Plan against key performance criteria and making recommendations to the Minister on how the SAR Plan can be enhanced in line with emerging demands, technology and other factors’.

In line with the specific AQE recommendation, the NSARC should be chaired by a suitably experienced person independent of the organisations represented. It should include representatives at a suitably senior level (preferably Assistant Secretary level or equivalents) from amongst its member organisations. This is intended to reflect its strategic role, ensure buy-in and organisational “clout” in terms of the Committee’s decision-making. Its members will be drawn from the strategic SAR stakeholders (the IRCG, IAA and AGS) and their parent Departments, along with strategic partners in both the State and voluntary SAR sectors.

As such, SARFREG recommends that membership of National SAR Committee should comprise representatives from: IRCG, IAA and AGS (as strategic SAR stakeholders); Departments of Transport and Justice (as their parent Departments); Defence, Health and Local Government (as key strategic State partners) and the RNLI (as the largest non-state entity operating in the SAR domain).

The Committee will enjoy enhanced support from a Secretariat within DTTAS. There will also be a stronger feedback loop to the work of various sectoral Committees and Working Groups. Specialist technical advisors may be co-opted, and ad hoc Working Groups convened to examine particular project developments or issues requiring specialist attention.
The terms of reference for the other groups and committees have also been reviewed to determine how they can add value to the SAR system and to ensure that the extensive expertise and knowledge at all levels within the SAR system is harnessed optimally. This means for example merging a number of existing “operational” committees under a single “SAR Consultative Committee” – the rationale being to consolidate and encourage better integration across all three SAR domains. This Committee will need to consider how this more horizontal approach is optimised in practice.

iv) A clearer description of the National SAR system including roles, inter relationships and responsibilities

The new NSP provides a more exhaustive and uniform description of the SAR system, from the strategic (Government Departments, primary agencies), through the tactical (SAR Coordinators) to the operational level (SAR assets and supports). It also describes how these elements should interact, and how incidents should be managed and coordinated depending on where they occur. This specifically addresses the AQE recommendation in relation to the clearer assignment of roles and responsibilities across the system.

At an operational level, the NSP now provides for a more uniform description of the SAR assets and supports available to the tactical SAR coordinators and their responsibilities. It also places an onus on both the tasking authority and SAR asset to put an agreement in place which describes their respective roles and responsibilities against a minimum standard, to include a description of the services provided, availability, tasking authority, KPIs and oversight regime.

In some cases, these detailed agreements are not yet in place or will need to be modified to meet the required minimum standard under the new NSP. A period of six months has been set for this requirement to be met (see Chapter 5 – NSP implementation). As a first step, IRCG has started developing a Master Services Agreement (MSA) template applicable to all SAR asset and support (service) providers (see Chapter 7 for more details).

Feedback from the SAR stakeholders also suggests that a national register of declared SAR assets would be a very useful tool. There are various models in other jurisdictions which could be drawn on in this context. The register would be available to all SAR coordinators and would be populated by the SAR assets themselves on a continual basis so as to remain a current, consistent and authoritative inventory for the efficient management of SAR operations.

SARFReG recommends that the scope of this “national SAR register” be considered by the National SAR Committee and, as such, it has been included as part of the implementation plan for the NSP in Chapter 5.

v) Towards a common approach to managing SAR incidents across all three domains

The new NSP sets out a common approach to managing SAR incidents which is intended to apply across all three domains – Maritime, Aeronautical and Land - in the appendix entitled “Incident Management Guidance”. This appendix describes the key steps involved in managing and coordinating a SAR incident, based on IAMSAR guidance. While the generic steps are common across all three domains of Land, Maritime and Aeronautical, the approaches taken by the respective SAR coordinators, the SAR facilities / assets available and the means of deploying them may vary.

The added value here is to map more explicitly which SAR coordinator takes the lead along each step. Critical hand-overs will be managed in accordance with procedures provided for in the respective MoUs / SLAs between SAR coordinators. The appendix also provides guidance on a number of non-standard scenarios such as mass rescue incidents, the transition from search and rescue to “search and recovery” and guidance on some key operational concepts used in SAR incident management, all with the aim to promote common understanding and language across the multiple organisations involved.
While the NSP document itself can provide useful guidance in this regard, the objective is to ensure a common understanding of the key steps and responsibilities involved and to ensure these are applied and embedded within the operational procedures of the organisations involved. This second "implementation" element will be effected through joint exercises across various scenarios particularly where jurisdictional issues are at play. SARFReG therefore recommends that IRCG prioritise such exercises over the coming year to 18 months and report back to the National SAR Committee on practical issues and lessons learnt. This would be an important step in maintaining the momentum achieved in closer cooperation and collaboration over the course of this review.

b) Towards a virtual Joint Rescue Coordination Centre model

i) Analysis
An important component in the new NSP relates to the AQE recommendation to "operationalize" (i.e. put into operation) the concept of a Joint Rescue Coordination Centre - an IAMSAR option of combining both aeronautical and maritime SAR coordination and management functions at the tactical level. The aim was to agree and implement a model best tailored to the particular circumstances of the Irish Search and Rescue Region (SRR). The SARFReG and its JRCC sub-group conducted extensive analysis on the existing model in Ireland and other comparable models in other jurisdictions. This analysis was supported by Frazer Nash consultants.

Potential options for developing the current system of Aeronautical and Maritime Rescue Coordination Centres (ARCC and MRCC) have emerged from the JRCC sub-group analysis. This analysis included a top-down review of strategic policy, both in Ireland and internationally, a bottom-up review from Irish SAR system participants, and the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual.

In order to enable an effective, practical comparison between JRCC options, standardised evaluation criteria were used which included:

- Safety of responders - any JRCC model should preferably decrease risk to the responders but must, as a minimum, not exceed the current level of risk;
- Speed of response and effectiveness – new JRCC model must not significantly reduce the current level of speed and effectiveness of SAR response;
- Organisational Disruption – i.e. the disruption to the SAR organisation caused by putting any new system in place (e.g. relocation issues, changed infrastructure, industrial relations, cost, complexity);
- Economy & Efficiency - ongoing value for money.

The analysis also considered the particular weaknesses and vulnerabilities identified through various sources (i.e. internally, the AQE Report and the ICAO 2010 audit) in relation to the existing model and how any recommended model would address these. A separate report by FNC sets out what options were considered, how these were evaluated and the rationale for recommending the so-called "virtual" JRCC option.

ii) Recommended Model
The preferred model was selected from the scoring by experienced SAR practitioners of several options against the agreed criteria, and then quality-assured through scrutiny by a small, senior panel. It capitalises on the strengths of the current ARCC/ARSC and MRCC/MRSC laydown, while minimising disruption and exploiting the potential of enhanced technology, better cooperation and revised operating procedures. The physical co-location of the respective RCCs was judged unnecessary, and the fundamental operating principles of the current system will remain in place. Manning and (see 4b.iii below) training regimes will be reinforced.

This virtual JRCC will have the following characteristics:
The ARCC and MRCC remain physically separated based on an enhancement of the existing model by improving the organisational structure, communications and shared situational awareness through technology and improved collaboration protocols;

- MRCC and MRSCs shall have responsibility for tasking all SAR Aviation Assets within their designated Search and Rescue Sub Regions (SRSs). MRCC shall have responsibility for authorising of all Non-SAR aviation missions and any out of area (SRS) SAR missions;
- MRCC authority shall also extend to general oversight of maritime SAR missions and other CG operations conducted across all three Coast Guard SRSs.

This new, virtual JRCC model for Ireland will enjoy improved, IT-enabled situational awareness across the aeronautical and maritime domains and will provide for enhanced operational oversight and prioritisation by MRCC Dublin of SAR helicopter employment across Ireland.

The new NSP reflects the recommended JRCC model. This model can be implemented within 12 to 18 months of a decision on adoption, subject to any as yet unquantifiable delays in technical infrastructure and recruitment. An implementation plan is appended to this report, setting out how this can be achieved and how implementation should be overseen.

iii) Aviation Training for IRCG staff

In 2019, IRCG will be piloting a proposed two-week SAR Aviation course aimed at all RCC Watch Officers and other CG operations staff. This course will mirror content included in the Airline Dispatch course with an emphasis on IRCG helicopter operations and will be delivered by an Approved Training Organisation (ATO). The ATO will be subject to IAA oversight per below. This will complement the existing SAR Mission Coordinator (SMC) course based on International Maritime Organisation (IMO) guidelines, for which a process for third level recognition is being initiated i.e. Level eight credits.

In reviewing the training in aviation competences within the MRCC/MRSCs, FNC has also identified a need to ensure that all training provided at SMC level should use the standardised IAMSAR manual training specifications as its key reference point. While not in scope for this particular review, SARFReG recommends that this review of SMC training be undertaken by the IRCG over the coming 6 months. This is reflected in Chapter 7 as an additional spin-off benefit of the review.

iv) Oversight of the new virtual JRCC

The ARCC element of the JRCC will be overseen, as now, by the IAA –SRD as the national aviation safety regulator. MRCC/MRSC operator training in relation to tasking SAR aviation assets will be conducted by an aviation Approved Training Organisation (ATO) which is subject to certification and oversight by the IAA (or another competent authority as applicable). MRCC/MRS operations generally will be overseen by the IRCG enhanced internal audit regime (in support of its new Safety Management Systems), reinforced by periodic external audit by an independent and suitably experienced entity.

c) Ensuring oversight of international SAR agreements

The AQE Report recommended that DTTAS review the existing international agreements and ensure that their implementation (e.g. joint training requirements) is subject to adequate oversight.

Ireland has two International SAR Agreements:

1. MOU for the Conduct of Operations between Her “Majesty’s Coastguard and the Irish Coast Guard (UK Agreement);
2. Technical Agreement Concerning Operational Cooperation between the Irish Coast Guard (IRCG) and the Atlantic Maritime Prefecture for Coordination of Emergency Operations (French Agreement).

The scope of the French Agreement only covers the aeronautical aspect of SAR operations and is limited to SAR operations of exceptional complexity or seriousness, or that occur in the more remote areas of the parties’ SRR or as appropriate within PRZ’s (pollution response zones). In contrast the UK Agreement is more detailed and the scope of the Agreement covers two aspects:

1. Cooperation in SAR operations;
2. Cooperation in maritime intervention, ship casualty, salvage and pollution preparedness and response.

The difference between the two agreements reflects the fact that Ireland’s SRR effectively sits within the UK SRR, while the French SRR is at the limits of the range of our SAR assets. The UK Agreement is due for review in 2020. The SARFReG agreed that the focus should be on the UK agreement and that while the French agreement was a useful instrument to encourage cooperation, training exercises were not foreseen. The IAA and IRCG considered some differences identified with the IAMSAR template and determined that these were not significant.

It was agreed that the commitment already included in the IRCG’s MoU with the MCA to undertake periodic training and exercises should be strengthened, and a mechanism agreed with the UK for regular review and mutual learning. The Irish Sea Working Group was considered the appropriate structure to undertake such reviews and to report on its recommendations and lessons learnt to the respective Directors of the MCA and IRCG.

In the new National SAR Plan, the National SAR Committee has also been given a role to review international agreements on a periodic basis. It would be a matter for the Director of the IRCG to provide regular reports to the National SAR Committee in whatever format they agree.

The additional wording required to the MoU is appended. With the agreement of the MCA, the MoU will be modified accordingly, effectively closing out this AQE recommendation.

d) Addressing the MCIB recommendations

There are two separate MCIB recommendations which SARFReG were asked to consider in December. They were to ensure that:

1. the criteria for determining the response to recovery operations, as opposed to search and rescue, are clearly defined and the appropriate responses to developments during an operation should be set out clearly; and
2. the criteria for tasking and launching Coast Guard boats are reviewed and clearly documented.

Search and Recovery

The IRCG issued a SAR Ops Notice (3/18) in June 2018 setting out guidelines on the transition of Search Operations to Search and Recovery mission (SRM) and the arrangements for the management of SRM operations.

SARFReG concluded that there were three key decisions involved in the transition from SAR to SRM – first to terminate/suspend the SAR mission. Second, to undertake a recovery mission of person or persons lost at sea under the authority of the AGS. IRCG’s role is to assist and as such can be requested to do so. The third step would be for the IRCG to determine the appropriate level of acceptable risk for the recovery mission and to record how this was assessed by the SMC.

In practice, IRCG will continue to be involved in recovery missions, and the transition from SAR to SRM in terms of the assets used may appear similar in many cases. SARFReG agreed that SOPs should set out a “decision-tree” to capture the steps and authority levels for each decision.
SARFReG also agreed that the "search and recovery" should be referenced in the revised NSP, clearly assigning the authority to the AGS for formally commencing and terminating such missions. This is captured at various points in the NSP, notably Appendix E on Incident Management.

IRCG has undertaken an extensive review of its SOP in consultation with AGS. IRCG has revised the SOP to include guidance on the risk assessment criteria to be applied and how the decision-making process is to be recorded.

Sweden and Canada were consulted on this SOP, by way of subjecting it to international peer review. The Swedish model was similar to Ireland’s in that when the SMC decides the SAR phase is over, responsibility is handed to the police. Their view was that the Irish SOP was a good guide and gives support to the decision-making process in the recovery phase.

The Canadian review was similarly positive. The reviewer remarked on the importance of having a clear means of transfer of authority, along with clear conditions set around the conclusion of the SAR incident and initiation of the search and recovery mission (SRM). It was also noted that SRM can involve external parties, and responsibility and authority should be clearly established at the local and national level in formal policy documents.

The new SOP will be finalised and promulgated by the IRCG by end July, taking on board these observations.

**Boat tasking and launching criteria**

IRCG’s existing SOP in relation to decision-making for boat tasking and launching is SAR Ops Notice 5/19. This summarises RCC arrangements for control of CGU boat operations. The SOP references the ‘triple-lock’ procedure which provides for 3 separate levels of judgement and decision. SARFReG agreed that the SOP should be peer-reviewed by a number of similar SAR organisations internationally, and by FNC, to assess its utility and robustness.

A significant review has been undertaken separately of the IRCG Boat Operations Manual. This is not directly in scope for the SARFReG review but provided an opportunity to incorporate lessons learnt and best practice in boat operations generally in the new manual and associated training.

Sweden, New Zealand and Canada responded to this peer review request. While the Swedish model is somewhat different from Ireland’s, the reviewer determined that Ireland had a very comprehensive and well worked through SOP and back up documentation. They had no suggestions for how the safety or the robustness of the decision making could be improved.

The New Zealand reviewer noted the SOPs on a whole were very well put together with a good introduction and operating procedures that were very easy to read and understand, along with clear diagrams and explanations throughout. Valuable remarks were made in relation to the responsibility of the OIC, having a single source for weather evaluation and final sign off on documentation. Further useful editorial comment on the SOPs was provided and could be easily taken on board.

A positive review was received from the Canadian Coast Guard which contained helpful suggestions in relation to training and recertification, annual review and criteria for mission suspension.

Frazer Nash Consultants provided a Maritime expert to consider this SOP and made a number of useful findings, primarily in terms of presentation and style e.g. SOP should present a concise summary of the control of, or arrangements for management of, CGU Boat operations; clearly identify the intended audience; establish consistency in role description and titles; where summaries are used, provide a clear link to where the explanatory information can be sourced within the document. These will be addressed in the IRCG’s final version of the SOP.
The new SOP will be finalised and promulgated by end July, taking on board the feedback received.

**Wider look at IRCG SOPs**
At a more general level and an additional spin-off from this process, the Peer Review and FNC review of the IRCG's SOPs highlights an important recommendation for the implementation of the NSP which is the need to ensure greater uniformity in the style and presentation of such SOPs. This is reflected in the implementation plan and set out in more detail in Chapter 7.

**IRCG work programme to implement other MCIB recommendations**
SARFRReG also notes the on-going work by the IRCG in relation to the other MCIB recommendations and specifically the follow-up in relation to the Minister's request that the IRCG satisfy themselves that there are no immediate safety issues arising from the non-certification of the boat in question under the Merchant Shipping Acts. Chapter 7 provides more detailed narrative on this work.

e) Ensuring coherence with the IAA-SRD regulatory regime

While the specific AQE recommendations to the IAA were not in scope for this review of the SAR Framework, they were relevant, and progress was reported regularly by the IAA members of the SARFRReG in order to maintain internal coherence between the NSP and the work of the IAA in developing regulatory guidance.

**AQE Recommendation 2:** It is recommended that DTTAS requests the IAA to develop clear and unambiguous State SAR regulatory material that is appropriate to the scale and complexity of the National aviation system, and which is aligned with international best practice.

**Status:** The IAA considered the most appropriate legislative mechanism to provide for SAR regulation and recommended the use of an 'opt-in' to the EASA framework, which was introduced in Regulation (EU) 2018/1139. It is noted that the Department is currently awaiting legal advice on whether the exercise of this discretion (to ‘opt-in’) requires any domestic legislation. Interim arrangements will be necessary to ensure the regulation and oversight of the civil aviation search and rescue functions undertaken by CHCI pending the application of EASA regulations.

It is proposed that the Authority will use its powers under Section 58 of the Act to issue an Order setting out the overarching scope together with the necessary enabling provisions to issue directions and notices, as required. This Order will specifically provide a basis for the development and publication of the necessary procedures and guidance material.

There will also be a further requirement to review many of the extant Orders issued by the Authority regulating civil aviation safety, and in this regard, work has already commenced on the necessary amendments to the Rules of the Air.

Following promulgations of the Order, the existing aeronautical notice ‘O.76 – The Conduct of Search and Rescue (SAR) Operations in Ireland’ will be withdrawn and reissued to reflect the new regulatory regime. To supplement the provision in the aeronautical notice, it is proposed that a single guidance document providing the detailed provisions for the regulation of Search and Rescue will be published by the Authority. In many respects this will be analogous the UK CAA’s CAP 999 ‘Helicopter Search and Rescue (SAR) in the UK National Approval Guidance’.

Under the legislation and the guidance material, it will then be necessary to develop a suite of internal procedures and checklists, in like manner to those routinely used by inspectors in the conduct of their day-to-day oversight activities.
It is anticipated that regulatory material in respect of a re-issued ‘O.76 – The Conduct of Search and Rescue (SAR) Operations in Ireland' and National SAR Approval Guidance will be in place by the end of June 2019.

AQE Recommendation 3: It is recommended that the IAA identifies the resources required to develop and implement SAR regulatory material

**Status:** Under review pending implementation of regulatory material.

AQE Recommendation 4: It is recommended that, as an integral part of the National SAR approval process, the IAA must require CHC Ireland DAC to produce and regularly review the safety cases for each of the twenty-seven alleviations and exemptions currently on the national SAR approval in the interest of continuous improvement of safety management of complex operators.

**Status:** Closed. Air Operator Certificate (AOC) oversight is a continuous process including, amongst other activity, regular meetings and audits. As part of the ongoing continuous oversight of the CHCI AOC, the IAA continuously reviews the operator's safety management system, incorporating risk registers, safety cases and associated bow-ties used to identify and mitigate risk in their operation. This process includes analysis of the alleviations and exemptions associated with the National SAR Approval. The IAA is satisfied that the processes in place with the operator are appropriate for the continuous improvement of safety management.

AQE Recommendation 12: It is recommended that DTTAS ensures that the IAA are involved directly by the IRCG in the aviation regulatory aspects of the contract with the operator to ensure consistency in the application of relevant regulations and processes.

**Status:** Through the SARFReG review process, the IAA and IRCG have engaged very constructively in relation to the wider regulatory aspects of SAR aviation. It was agreed that a formal mechanism should be found to ensure this engagement continue in a way that facilitates constructive interaction and avoids encroaching on IAA-SRD’s regulatory responsibilities in relation to CHCI DAC. It has been agreed that the mechanism will take the form of an Advance Arrangement between IAA and IRCG. The text for this arrangement has been agreed.
5. Implementation of the New NSP

The SARFReG was asked to deliver a revised National SAR Plan in accordance with the AQE and MCIB recommendations. Engagement with SAR stakeholders, both primary and supporting, has been key to ensuring buy-in to the new NSP and particularly its more innovative elements. The NSP will be a “living” document that evolves to address national and international needs. It will be controlled by DTTAS and changes will be agreed through the National SAR Committee and published on the DTTAS website.

Implementation of new elements in the NSP will require time to deliver effectively, particularly in terms of the consequential demands it will place on SAR stakeholders. It is vital to get this right to maintain the positive momentum generated and to embed the principles and processes of the NSP across the SAR system in a sustainable way.

The implementation plan should be overseen at an appropriate level within DTTAS. It is therefore recommended that the Steering Group comprising Assistant Secretaries in Aviation and Maritime within DTTAS continues, augmented by a representative from the Department of Justice to cover the Land SAR element being implemented by AGS and the chairperson of NSARC (if different) to oversee the implementation of the NSP and to ensure the additional spin-off measures set out in Chapter 7 are delivered.

The following sets out a sequence for NSP implementation:

<table>
<thead>
<tr>
<th>By August 2019</th>
<th>First meeting of National SAR Committee under new Chair and ToRs</th>
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<tbody>
<tr>
<td></td>
<td>- To agree work programme for implementation of the NSP</td>
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<td>- To agree membership of the SAR Consultative Committee</td>
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<td>- To set milestones for reporting on progress to Minister</td>
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<td>- To consider KPIs for the NSP</td>
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<td>- To consider roadmap for implementing SAR assurance mechanism</td>
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<td>- To agree ToR and membership of Health and Safety Forum</td>
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<td>- To consider scope of a national SAR assets register</td>
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<tr>
<th>By October 2019</th>
<th>First meeting of SAR Consultative Committee</th>
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<tr>
<td></td>
<td>- To agree modus operandi to harness horizontal intelligence and data</td>
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| By October 2019 | First meeting of the SAR Regulators Forum and Health and Safety Forum |

| By November 2019 | Review of MoUs between SAR Coordinators to align with NSP and plan in place to exercise across three domains. |

| By December 2019 | Agree NSP KPIs for next 3 years and an appropriate reporting mechanism |

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<tr>
<th>By March 2020</th>
<th>Deadline for SLAs / MoUs in place with all SAR stakeholders as part of SAR Assurance mechanism</th>
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<tr>
<td></td>
<td>Register of declared SAR assets in place</td>
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<td></td>
<td>Deadline for IRCG SOPs review against agreed template</td>
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<td>SAR assurance mechanism fully activated</td>
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<tr>
<th>By June 2020</th>
<th>SAR Stakeholders Workshop</th>
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<td>By June 2020</td>
<td>Second IAMSAR Annex H self-assessment undertaken</td>
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<td>By July 2020</td>
<td>First NSP implementation report to Minister</td>
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| By December 2020 | Deadline for implementation of virtual JRCC and oversight mechanism |
6. Progress on other AQE recommendations

The Minister agreed an overall Action Plan for the AQE report in September 2018. Progress on those recommendations not covered elsewhere in this report is shown below for completeness, although outside the terms of reference for the SARFRG terms of reference.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Actions</th>
<th>Lead</th>
<th>Timeframe</th>
<th>Progress</th>
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<tbody>
<tr>
<td>1 DTTAS formally and clearly assigns the IAA with responsibility for the legal and safety oversight of civil aviation Search and Rescue activities.</td>
<td>DTTAS instruction to CEO of IAA</td>
<td>ASD</td>
<td>Immediate</td>
<td>Closed</td>
</tr>
<tr>
<td>8 DTTAS considers the potential merits of engaging with the EU/EASA and using their regulatory framework and rulemaking processes as an opportunity to develop Europe-wide guidance on creating an effective civil SAR Framework.</td>
<td>Review options and make formal proposal to EU/EASA</td>
<td>ASD</td>
<td>12 + months</td>
<td>Dependent on EASA opt-in roadmap</td>
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<tr>
<td>10 DTTAS requires that an ICAO Universal Safety Oversight Audit Programme (USOAP) pre-audit be conducted on aeronautical SAR, and that the findings are reported and acted upon.</td>
<td>DTTAS, along with IAA, to conduct pre-audit via external process on SAR related PQs in ICAO audit framework</td>
<td>DTTAS/IAA</td>
<td>12+ months</td>
<td>Pre audit should be conducted by external auditor and scheduled for later half of 2020.</td>
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7. Additional benefits of the review

The review of the SAR Framework has yielded some additional spin-off benefits not specifically anticipated in the original terms of reference. These are set out below under two headings - a more engaged and integrated SAR system and IRCG continuous improvement measures.

A more engaged and integrated SAR system

1. Greater integration of Land SAR in the NSP
The existing SAR Framework makes some reference to role of the AGS in land SAR and no reference to their role in Search and Recovery. Through this review process, the AGS have engaged very positively and their role is now more extensively reflected in the new NSP. Unlike Maritime and Aeronautical SAR, there are no international conventions relating to Land SAR. IAMSAR manuals make limited reference to Land SAR, and it is accepted that the international guidelines may not be an exact fit for the management and operating procedures within the AGS. However, AGS has agreed to apply IAMSAR principles in SAR incident management insofar as practicable within their operating procedures and to ensure high level engagement with the NSARC and associated NSP structures. This is a very positive development.

The “re-balancing” of both the applicability and ownership of the Plan has been a guiding principle in the deliberations of the SAR Framework Review Group. It underpins many of the structural changes proposed, particularly in terms of the new National SAR Committee and sub-structures.

2. More routine, constructive interaction between IAA, AGS and IRCG;
The review has also provided the platform for more routine, constructive interaction between the three strategic SAR coordinators. This has generated a much deeper understanding of how each operates in the SAR domain and the extent to which closer collaboration and cooperation between all three can help improve the overall SAR system.

Similarly, the engagement for the first time between the IAA –SRD, the MSO and Road Safety Division / RSA in relation to the regulatory aspects of SAR is a very positive development and shows the potential value in the three transport regulators working closer together as part of the new SAR Regulators Forum. This is a unique innovation in the new NSP and will require time to bed down. For this reason, it is being limited initially to regulators in the transport domain. This does not preclude the Forum from inviting other regulators to their meetings.

Thirdly, the IAA and IRCG have developed a mechanism for systematic engagement on the regulatory aspects of the SAR helicopter contract, through a so-called 'Advance Agreement'. This is designed to facilitate continued, constructive interaction without encroaching on IAA-SRD’s regulatory responsibilities in relation to the helicopter operator. The Agreement will also be particularly important as an efficient vehicle for managing the procurement of the next SAR helicopter contract.

3. A higher level of engagement across the SAR system at tactical and operational level;
A key benefit from this review has been the level of engagement and interest across the SAR system as a whole, and the appetite for improving it. A SAR stakeholders Workshop was held on 16 May as part of the review. This was the first-ever workshop for all SAR stakeholders and represented a major milestone in the process. It was clear to the SARFReG that such workshops should be held more often to consolidate and build on its evident value. As part of the NSP implementation, it is recommended that a second workshop be held in June 2020. This could then become a model for remaining in regular contact with the wider SAR family.

4. Regulatory oversight in the maritime domain
SARFReG also welcomes the constructive dialogue between the IRCG and the MSO in relation to the certification of IRCG vessels, in the context of the follow-up work to the other MCIB recommendations.
In that regard, IRCG has carried out two batches of independent surveys of the different categories of boat (including the D-Class, Humber, Delta 9.0m, Delta 7.5m, Ribcraft) against the requirements for a passenger licenced vessel as well as an international comparison code for rescue boats. The surveyor's findings were as follows:

1. The vessels were well equipped and well maintained by dedicated and committed staff and volunteers
2. The vessels should be put forward for P6 licencing in order to conform to the Passenger Boat Licence regulations
3. Operational procedures in place are to a high standard, but a formal Safety Management System needs to be developed

All the findings and recommendations arising from this survey are being followed-up by the IRCG. This represents an important step which mirrors the approach taken from a regulatory perspective on the aviation side.

**IRCG continuous improvement measures**

5. *The development of IRCG’s safety, quality, compliance and internal audit regime, including the development of a formal Safety Management System (SMS)*

SARFReg welcomes the IRCG’s establishing a Safety, Quality and Compliance (SQC) section, and appointing therein a dedicated Health and Safety Officer to provide oversight of the SMS, working with the Department’s Safety Officer(s) to embed and improve Health and Safety policy, procedures, goals and objectives. Further, the IRCG has committed to implementing an effective SMS, applicable to the specific needs of the IRCG and in line with the mandatory requirements of ISO 45001:2018 - Occupational Health and Safety Management Systems (SMS Revision & Accreditation – SRA - Project). This work will also help inform other entities within the SAR system who are seeking to improve their Safety Management Systems. The new Health and Safety Working Group will be a good forum to share this work across the wider SAR family.

6. *Greater rigour in the IRCG training organisation and commitment to integrating IAMSAR training guidance as a key reference point for future SMC development training*

In reviewing the training in aviation competences within the MRCC/MRSCs, FNC has also identified a need to ensure that all training provided at SMC level should use the standardised IAMSAR manual training specifications as its key reference point. SARFReg notes that work has already commenced within the IRCG to bring greater rigour to the training programme, particularly in the volunteer domain, where investment has increased. While not in scope for this particular review, SARFReg recommends that a review of SMC training be undertaken by the IRCG over the coming 6 months with a view to ensuring that IAMSAR guidelines for such training are being followed.

7. *Development of an agreed template for MoUs between SAR coordinators and SAR facilities, to align with the new SAR assurance mechanism*

As part of the NSP implementation plan, the SARFReg has asked that SAR coordinators develop an agreed minimum set of requirements for their MoUs with SAR facilities (at an operational level). A period of six months has been set for meeting this requirement.

As a first step to address the new assurance requirements stipulated within the NSP, SARFReg welcomes the fact that the IRCG has already drafted a new MoU template (referred to as a Master Services Agreement) applicable to all SAR asset and support (service) providers. The MoU is intended to serve as an over-arching document that sits above any individual Statement(s) of Work (SoW) in the hierarchy of agreements, outlining for example the responsibilities between parties; service standards; reporting requirements; actions pertaining to non-conforming services; and the agreement’s term and termination conditions. Whereas the MOU provides consistency in the way all IRCG service relationships are to be managed, operational provisions specific to each
provider (e.g. asset deployment expectations) will be detailed and agreed upon by the appropriate area/contract managers in a corresponding SoW.

8. **Wider review of IRCG’s SOPs as part of the development of a Quality Management System (integrated within their SMS)**

Following the review of the IRCG’s SOPs for Boat Launching and Search and Recovery, and in light of feedback from the International Peer Reviewers and FNC, the IRCG has identified a need to look more widely at the IRCG’s extant SOPs as part of their implementation of the NSP. This will aim at greater clarity and uniformity in the style and presentation of such SOPs, taking account of the intended audience and how such documentation is used in practice. In addition, improved document control will form part of the IRCG’s roadmap to an accredited Safety Management System based on rigorous quality management. Lessons arising from the review will be shared with the wider SAR system through the NSARC and the National SAR Consultative Committee.

The advent of a new Volunteer Information Management IT System will ease the promulgation of new SOPS and associated guidance material across the IRCG volunteer population. Together with the existing Incident Logging System (SILAS), this will provide for more consistent and comprehensive approaches to dynamic decision-making and risk assessment.

9. **Self – assessment of the national SAR system**

A further ‘spin-off’ initiative has been an internal review of Ireland’s SAR organisation, as measured against the comprehensive self-assessment checklist at Annex H of the IAMSAR manual. This has identified a number of minor areas for improvement in what was found to be a fundamentally compliant and soundly administered SAR regime. Under the new SAR assurance mechanism in the NSP, this self-assessment will be undertaken annually under the auspices of the National SAR Committee.

Given the wider range of improvement measures which this process has spawned, the SARFReG recommends that DTTAS ensure the full suite of on-going continuous improvement measures outlined here are delivered through the oversight arrangements for delivery of the NSP itself (set out in Chapter 5).
Appendix A: Terms of Reference - AQE / MCIB Report Recommendations

**AQE Recommendations** [with timeframe per report]

1. DTTAS formally and clearly assigns the IAA with responsibility for the legal and safety oversight of civil aviation Search and Rescue activities. [immediate/0-3 months]
2. DTTAS requests the IAA to develop clear and unambiguous State SAR regulatory material that is appropriate to the scale and complexity of the National aviation system, and which is aligned with international best practice [medium/3-9 months]
3. IAA identifies the resources required to develop and implement SAR regulatory material [medium/3-9 months]
4. As an integral part of the National SAR approval process, the IAA must require CHC Ireland DAC to produce and regularly review the safety cases for each of the twenty-seven alleviations and exemptions currently on the national SAR approval in the interest of continuous improvement of safety management of complex operators [immediate /0-3 months]
5. DTTAS ensures that the roles and responsibilities are assigned appropriately to those organisations that have the skills, expertise and knowledge to fulfil those obligations, and that there is a consistent, shared understanding and implementation of the roles and responsibilities by the relevant organisations, as defined in the Irish National Maritime SAR Framework. [medium /3-9 months]
6. DTTAS arranges a review of two particular aspects of the Irish National Maritime SAR Framework to address the following:
   - How it is intended to operationalise a joint maritime and aeronautical RCC (JRCC) in practice, including its roles and responsibilities, and the provisions for the training of staff in the relevant organisations.
   - The need to ensure that personnel involved in managing and tasking SAR aviation operations including the tasking of helicopter missions, are appropriately skilled, knowledgeable and qualified. [medium/ 3-9 months]
7. As part of the overall review of the SAR Framework, the IAA is clearly tasked to perform aviation safety oversight on RCCs. [medium /3-9 months]
8. DTTAS considers the potential merits of engaging with the EU/EASA and using their regulatory framework and rulemaking processes as an opportunity to develop Europe-wide guidance on creating an effective civil SAR Framework. [long/12 months]
9. DTTAS ensures that the IAMEAC members represent their organisations at an appropriately senior level and that the committee is chaired by an independent person [medium / 3-9 months]
10. DTTAS requires that an ICAO Universal Safety Oversight Audit Programme (USOAP) pre-audit be conducted on aeronautical SAR, and that the findings are reported and acted upon. [long /12 months]
11. DTTAS reviews the existing international agreements and ensures that the implementation (i.e. joint training requirements) is subject to adequate oversight. [medium 3-9 months]
12. DTTAS ensures that the IAA are involved directly by the IRCG in the aviation regulatory aspects of the contract with the operator to ensure consistency in the application of relevant regulations and processes [immediate 0-3 months]
MCIB Safety Recommendation

Ensure that:

MCIB recommendation 6.1.1

a) the criteria for determining the response to recovery operations, as opposed to search and rescue, are clearly defined and the appropriate responses to developments during an operation should be set out clearly;

MCIB recommendation 6.1.2

b) the criteria for tasking and launching Coast Guard boats are reviewed and clearly documented.
Appendix B: SAR Framework Review - Structures and Process

SAR Framework Review Group

Chairperson: Sir Alan Massey
Members: Caoimhín Ó Ciaruáin, Liam Keogh, Eugene Clonan (Director of IRCG), Niall Connors (IAA), External Expertise (Frazer Nash appointed in Feb 2019)
Alternates: John O’Farrell, Niamh O’Brien, Gerard O’Flynn, Declan Fitzpatrick
Secretary: John O’Farrell
The SARFReG has met 7 times.

Work streams

1. Gap analysis of National SAR Frameworks and Plans with IAMSAR requirements and analogous frameworks internationally, to include mapping of "As Is" arrangements in Ireland (including current skills, knowledge, expertise, training and qualifications) and the proposed "To be" model
2. Stakeholder consultation, including IAMEAC member organisations, regarding oversight regimes for SAR related activities
3. Review and recommend an appropriate JRCC model, along with requisite skill sets, implementation and oversight arrangements. Design an implementation plan to achieve the preferred model
4. Review, propose and agree improvements to existing SAR agreements and MoUs to ensure adequate oversight arrangements, including for training and exercises
5. Final versions will require agreement of SAR entities in UK and France
6. Review, benchmark with international equivalents and clearly define the criteria for search and recovery operations and for the tasking and launching of rescue boats, for incorporation into IRCG SOPs

Process

- SAR Review Group to meet on a monthly basis
- JRCC subgroups to deliver Workstream 3 to be established and to meet as necessary between plenary group meetings
- Workshops will be required for key elements of the review (as specified above)
- Worksmart site with external access to manage communications and enable sharing and collaboration on key documents
- Site visits and bilateral meetings with key partners and components in the SAR system
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<tr>
<th>Terms of Reference</th>
<th>Action Items</th>
<th>Final Output</th>
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<tbody>
<tr>
<td>To ensure the roles and responsibilities in the Framework are assigned appropriately to those organisations that have the skills, expertise and knowledge to fulfil those obligations. AQE recommendation 5a</td>
<td>1. Gap analysis of existing SAR Fwk roles against IAMSAR / other jurisdictions’ models  2. Engage with organisations and map current skills / knowledge / expertise  3. Recommend optimal assignation of roles and responsibilities  4. Prepare revised document for discussion / agreement with stakeholders  5. Workshop to ensure shared understanding of respective roles  6. New Framework to incorporate a mechanism for assuring the consistent fulfilment of roles and responsibilities by all involved agencies</td>
<td>• Revised SAR Framework document, agreed by Review Group and IAMEAC, by June 2019  • Workshop completed on new SAR Framework document  • Mechanism in place to ensure regular review of SAR Framework and assurance of standards and practices  • Overall report of SARFReG Group with new NSP to Government for information (July)</td>
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<tr>
<td>To ensure a consistent, shared understanding and implementation of the roles and responsibilities by the relevant organisations. AQE recommendation 5b</td>
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<td>To ensure members of IAMEAC (Irish Aeronautical and Maritime Emergency Advisory Committee) represent their organisation at an appropriately senior level and that the committee is chaired by an independent person. AQE recommendation 9</td>
<td>1. Brief IAMEAC member organisations on review scope and objectives  2. Seek views on oversight role of IAMEAC and how this can be enhanced -  3. Consider other stakeholders in SAR oversight and how their role can be incorporated  4. Agree new terms of reference (including membership and supporting committees)  5. Conduct workshop on draft Framework with IAMEAC</td>
<td>Newly reconstituted IAMEAC in place by July 2019, reflecting new SAR Framework document, with process agreed for appointment of an independent chair</td>
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<tr>
<td>Terms of Reference</td>
<td>Action Items</td>
<td>Output</td>
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<td><strong>To review how best to deliver a Joint (maritime and aeronautical) Rescue Coordination Centre, including roles and responsibilities, and provision of staff training;</strong></td>
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<td><strong>AQE recommendation 6a</strong></td>
<td>1. Review various models for JRCC internationally, including specifications in terms of skills, qualifications, knowledge, roles, workflows and oversight arrangements</td>
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<tr>
<td>2. Map existing ARCC/MRCC model in Ireland and identify skills, knowledge, roles and workflows involved, and how these can be integrated optimally to meet effective JRCC model</td>
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<td>3. Identify implementation plan including associated benefits, costs and risks</td>
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<td>4. Agree process for IAA to undertake safety oversight of aviation aspects of RCCs, including assurance of the relevant professional competencies of assigned RCC personnel</td>
<td></td>
<td>Implementation Plan for JRCC agreed, including timeframe, CBA and Risk analysis</td>
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<tr>
<td><strong>To ensure the personnel involved in managing and tasking SAR aviation operations including the tasking of helicopter missions, are appropriately skilled, knowledgeable and qualified;</strong></td>
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<tr>
<td><strong>AQE recommendation 6b</strong></td>
<td></td>
<td>IAA (SRD) oversight approach to encompass aviation aspects of proposed JRCC model</td>
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<td><strong>To ensure aviation safety oversight of Rescue Coordination Centres is conducted by the IAA;</strong></td>
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<td><strong>AQE recommendation 7</strong></td>
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<tr>
<td><strong>To ensure oversight arrangements of existing international SAR agreements (MoUs) are adequate.</strong></td>
<td>Review existing SAR agreements and MoUs against the IAMSAR template to ensure adequate oversight arrangements, including for training and exercises</td>
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<tr>
<td><strong>AQE recommendation 11</strong></td>
<td>1. Propose and agree improvements with UK and France</td>
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<td>2. Introduce a regular review mechanism into new SAR Framework regime</td>
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<td>Revised MoU with MCA</td>
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<td>Review mechanism reflected in NSP</td>
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<tr>
<td>Terms of Reference</td>
<td>Action Items</td>
<td>Output</td>
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<tr>
<td><strong>MCIB Safety Recommendation</strong></td>
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<td>Ensure that:</td>
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| a) the criteria for determining the response to recovery operations, as opposed to search and rescue, are clearly defined and the appropriate responses to developments during an operation should be set out clearly; | 1. Consider MCIB report on this issue  
2. Review and benchmark existing SRM criteria with international equivalents and IAMSAR guidance  
3. Recommend improvements reflecting international best practice for incorporation into IRCG SOPs | New SOPs / guidance material for IRCG operations in line with IAMSAR guidance and reflecting international best practice |
| MCIB recommendation 6.1.1 and | | Revised SAR Plan reflects this work appropriately |
| b) the criteria for tasking and launching Coast Guard boats are reviewed and clearly documented. | 1. Consider MCIB report on this issue  
2. Review existing criteria for tasking and launching boats against IAMSAR guidance and international best practice  
3. Recommend improvements and ensure these are incorporated into IRCG SOPs | |
Appendix C: National SAR Plan

See separate document
Appendix D: FNC analysis document

See separate document
1. The JRCC Working Group (WG) was established as a sub Group of the SAR Framework Review. It was chaired by Gerard O’Flynn SAR Ops Manager IRCG, and membership consisted of ARCC, SRD, MRCC, DTTAS (MSD) and FNC. The WG has submitted a report on its deliberations.

2. The Group’s work was underpinned by the following:
   - Review of ‘As Is’ situation at MRCC/SCs(IRCG) and ARCC (Shannon)
   - FNC Link Analysis Report based on a SAR stakeholder workshop and visits/interviews conducted at MRCC Dublin, MRSC Valientia, ARCC Shannon, CHCI Shannon, Valientia and Kilrush RNLJ stations, and Doolin CGU.
   - FNC- JRCC Options Report
   - JRCC/ MRCC Aviation Tasking Options (Scoring Matrix)
   - Enhanced JRCC Options Proposals.
   - MRCC/SCs Options paper on staffing and training oversight.
   - Visit to UKNMOC (/ARCC) and overview of modus operandi.

3. This WG recommended the following model:
   1. The ARCC and MRCC remain physically separated based on an enhancement of the existing model, by improving the organisational structure, communications and shared situational awareness through technology and improved collaboration protocols. The concept is to be referred to as a ‘Virtual JRCC’.
   2. MRCC and MRSCs shall have responsibility for tasking all SAR Aviation Assets within their designated Search and Rescue Sub Regions (SRSs). MRCC shall have responsibility for authorising of all Non-SAR aviation missions and any out of area (SRS) SAR missions.
   3. MRCC authority shall also extend to general oversight of maritime SAR missions and other CG operations conducted across all three Coast Guard SRSs.

4. The Group identified a variety of measures to enable the enhancement of the existing JRCC model, including:
   1. Updating the relevant MOU or provide a dedicated Letter of Agreement (LOA) for the operation of the Virtual JRCC.
   2. Researching and publishing manuals to cover: Concept of Ops, Operational Procedures and Aircraft Coordinator (ACO) Procedures for Mass Rescue or multiple aircraft operations.
   3. Providing enhanced communications and information sharing to include ARCC access to the IRCG incident logging system, and upgraded video technology to enable a virtual co-location of ARCC/MRCC staff.
   4. Reviewing and publishing exercise and training regimes.
   5. Developing an Incident Review mechanism
   6. Reviewing asset communications tracking and sharing mechanisms to include Aero VHF, AIS\(^1\), Skytrac\(^2\) and ADSB\(^3\).

These are described in greater detail in the JRCC subgroup’s report, including the rationale and timeframe for delivery of each. The WG also identified a series of measures to enhance the capacity of the MRCC to exercise oversight of all CG Operational outputs through the provision

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\(^1\) Automatic Identification System
\(^2\) Product use by IRCG SAR helos for automatic tracking.
\(^3\) Automatic Dependent Surveillance – Broadcast.
of an additional watch officer role at MRCC and to review the overnight staffing numbers at the MRSCs. These recommendations are also included in the JRCC WG report

Implementation Group and Oversight of Delivery

DTTAS will establish an implementation team to coordinate and oversee the delivery of the proposals. Membership will consist of representatives of: ARCC/IAA, IRCG and AGS. It will report to the proposed Steering Group for oversight of the NSP implementation plan.

Timeframe
The anticipated time frame for delivery of the full proposal is December 2020.

Cost
It has not been possible within the timeframe for this review to estimate costs associated with the JRCC plan in detail. The principal costs relate to recruitment of additional personnel (expected to be six) in the IRCG’s MRCC; IT infrastructure costs to deliver greater situation awareness between the ARCC/MRCCs; and the on-going training costs for the new aviation course. This option is however substantially less costly and disruptive than the co-location option considered as part of the review and will deliver important benefits for operational efficiency and oversight.
1.8 Joint Exercises

1.8.1 Joint exercises are to be held by the agreement of the participants. These can be tabletop or live exercises and may cover SAR and/or maritime intervention, ship casualty, salvage and counter pollution activities.

**New**

1.8.1a The Irish Sea Working Group (terms of reference at appendix a) will review these exercises and communicate any recommendations and lessons learnt to the Directors of the MCA and the IRCG.

1.8.2 Co-operative Arrangements

1.8.2 Cooperative arrangements can include the pooling of facilities, the establishment of common procedures, joint training and exercises, regular checks of inter-Agency communication channels, liaison visits with rescue coordination centre personnel and the exchange of search and rescue information.

**New**

1.8.2a The Irish Sea Working Group will regularly identify and review training opportunities of mutual benefit.
Appendix G: Summary of additional SARFReG recommendations

(extracted from report for ease of reference)

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<th>Recommendation 1</th>
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<td>SARFReG recommends that the NSP be implemented on a phased basis as outlined in Chapter 5 to ensure optimal impact. This is particularly important to ensure a managed and integrated approach to the revised SAR structures and to the development of MoUs and SLAs both horizontally and vertically within the system.</td>
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<th>Recommendation 2</th>
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<td>SARFReG recommends that membership of National SAR Committee should comprise representatives from: IRCG, IAA and AGS (as primary SAR stakeholders); Departments of Transport and Justice (as their parent Departments); Defence, Health and Housing (as key strategic State partners) and the RNLI (as the largest non-state entity operating in the SAR domain).</td>
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<th>Recommendation 3</th>
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<td>SARFReG recommends that the scope of the “National SAR Register” be considered by the National SAR Committee and, as such, it has been included as part of the implementation plan for the NSP.</td>
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<th>Recommendation 4</th>
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<td>SARFReG recommends that IRCG prioritise joint exercises across various scenarios particularly where jurisdictional issues are at play over the coming year to 18 months and to report back to the National SAR Committee on practical issues and lessons learnt.</td>
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<th>Recommendation 5</th>
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<td>SARFReG recommends that a review of SMC training be undertaken by the IRCG over the coming 6 months with reference to the IAMSAR manual training specifications.</td>
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<th>Recommendation 6</th>
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<td>SARFReG recommends that the implementation of the NSP should be overseen at an appropriate level within DTTAS. It is therefore recommended that the Steering Group comprising Assistant Secretaries in Aviation and Maritime within DTTAS continues, augmented by a representative from the Department of Justice to cover the Land SAR element being implemented by AGS and the chairperson of NSARC (if different) to oversee the implementation of the NSP and to ensure the additional spin-off measures set out in Chapter 7 are delivered.</td>
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