INSARAG External Classification and Reclassification (IEC/IER) Review

The INSARAG Guidelines, Vol II, Manual C sets the minimum standards for the INSARAG Network to verify international USAR standards using the IEC and IER processes. In order to remain relevant and 'fit for purpose', this report provides a detailed analysis of these processes and makes recommendations to improve their future delivery.

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1. EXECUTIVE SUMMARY

The International Search and Rescue Advisory Group (INSARAG) has, since its inception, sought to strengthen coordination and standardisation among internationally classified Urban Search and Rescue (USAR) teams, reduce the number of volunteers without appropriate training or credentials and build international community confidence that external USAR is a value-added resource worthy of supporting. There is no question that the group has achieved these interrelated goals with a multidimensional strategy, which, since 2005, has included the INSARAG External Classification/Reclassification process (IEC/R), which has to date peer assessed and classified 56 teams from 44 countries and organisations with many others awaiting an IEC to finalise their process.

The INSARAG Guidelines, Vol II, Manual C sets the minimum standards for the IEC/R process to verify international USAR standards which are seen as an example of how independent peer review can increase response preparedness and operational capability. The process has a proven track record having undergone a number of successful amendments and is regarded as a 'global benchmark' which other organisations have utilised to develop their own respective classification and quality assurance systems[1]

Based on the outcomes of this review, it is clearly 'fit for purpose' however, there are considered to be a number of areas that warrant attention to ensure that it remains a relevant and accessible standard for which countries and teams from across the globe aspire to achieve and that it continues to be a quality mark providing assurance of an increasing amount of teams and ultimately professional value-adding resources to disaster-affected countries.

Appropriateness of the IEC/R process: There is strong support for the IEC/R process from key stakeholders as well as recognition that the stated requirements add value to individual teams and participating/disaster-affected countries. Teams also recognise the value of being provided with opportunities to learn best practices, and access SOPs/documents from international experts (mentors and classifiers), and ultimately being assessed against a common framework of standards. The process is also seen as significantly improving and validating the domestic capability of participating countries as well increasing the likelihood that the overall response to national and international disasters will be safer and more effective.

Classification Vs Reclassification Checklist: The current checklist is deemed as being suitable for non-accredited teams undertaking the peer review process as part of the initial classification (IEC). However, the use of the checklist for IERs is seen as limited in its ability to show-case more developed technical aspects/capabilities of teams. Ultimately, maintaining minimum standards provides a degree of consistency but it is questionable that such an approach for experienced teams facilitates continuous improvement and measurement of quality. There is significant consensus from a number of senior experienced team leaders, mentors and classifiers that the use of the current IER checklist limits the evolution of best practice in light of emerging technologies and capabilities.

IEC/R exercises: There is a perceived variance in the levels and quality of the IEC/R exercises. It is generally felt the current exercise regime does not always allow nor demonstrate the true performance levels of a team because of the artificial aspects and, in most cases, the over-

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[1] European Union Civil Protection certification process, World health Organisation EMT classification process

familiarity of the sites being used. There is a view that exercise scenarios are designed to be easily achievable and not challenging enough, especially for teams undergoing re-classifications. In addition, a number of IEC exercise organisers were unclear on what was expected of them, with a lack of understanding of how to plan for and manage a large-scale exercise. Additionally, concerns have been raised regarding the economic feasibility of the current reclassification process. Given the environment characterised by ever increasing fiscal stringency, some feedback has suggested there may be more efficient ways to gather evidence of compliance with the Guidelines without the need to conduct the peer review exercise with its associated costs.

IEC/R Classifiers: Member States strongly support nominations of IEC/R classifiers, and those nominated individuals demonstrate a high degree of commitment to ensure that the process is carried out in accordance with the Guidelines and minimum standards. However, evidence suggests variances in the standards and approaches taken. Subsequently this review has highlighted the need to have classifiers selected based on skills, currency, experience and availability and following an initial training course as well as fulfilling the role of shadow classifier (classifier in training) to ensure better coherence and understanding of the responsibilities prior to being allocated full classifier status.

IEC/R Mentors: This review has highlighted and reinforced the critical role played by mentors during the IEC/R process, and has been seen as vastly improving the overall system, however, comments received suggest that some mentors become too involved and coach their respective teams during the actual IEC/R exercise, so there is a need to ensure that they remain independent and objective during the entire final stage of the process.

Stakeholder engagement: The review has reinforced the value of the IEC/R process and the role it plays in gaining political attention and support, as well as facilitating better cooperation among key partners. It has also been suggested that the INSARAG community, at the international, regional and team levels could better market the process with the INSARAG Emergency Response Section (Secretariat) providing a stronger leadership role in achieving this outcome.

IEC/R documentation: The general timelines drafted by the IEC/R team, mentor, IEC/R Team Leader (TL) and the Secretariat has ensured that progress milestones are monitored and reported, to ensure any potential issues are raised well in advance.

Overall IEC/R documentation is of a good standard, but there are two areas where it is felt that there is a distinct lack of detail and consistency. Firstly, the identification and reporting of good practices both in terms of team's performances and the process itself and it is suggested that clarification should be provided on what constitutes good practice to ensure that classifiers are able to recognise and record them in a more systematic manner. Additionally, these practices should be collated, analysed[2] and made available to the entire INSARAG community via the annual Team Leaders meeting and a relevant platform such as an open source database or via a folder located on INSARAG.org.

Secondly, analysis should be carried out on IEC/R reports to identify specific issues and trends where classifiers have identified areas for improvement in teams. Again these should be highlighted to all teams with significant issues made subject to the development of guidance or training in order to improve performance.

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[2] Potentially a Working Group role

Checklist colour coding: The use of the checklists to guide classifiers and teams is a well embedded concept with the general performance descriptors considered to be of a good standard, however, there are distinct differences of opinion regarding the application of the colour coding system. The colour coding system provides a visible indicator of how a team has performed, but it has been strongly suggested that the current system engenders a level of competition between teams that is detrimental to the process as well as contrary to the intent of the Guidelines. Additionally, there is a tendency among classifiers not to judge a checklist item as red due to the consequences of a perceived failure/deferral of the process, thereby questioning the relevancy and validity of colour coding. It is further suggested that some countries have used the colour coding system when applying for additional funding (following an IEC/R) but it has limited value to reporting on the outcomes of an IEC/R and that greater emphasis should be given to more comprehensive advisory notes.

The endorsed INSARAG Recognised National Accreditation Process (IRNAP) in Guideline Volume II, Manual A on Capacity Building, has four colours, which further indicates differences of opinion and use.

Flexible response: It is now widely accepted that the impacts of climate change will result in greater frequency and severity of extreme climatic events such as storms, floods and large-scale bushfires. Given the significant resource investment to establish and maintain certified USAR teams, it is reasonable to explore how teams can be used when such events overwhelm national/regional capacities. This may be a longer-term objective requiring potential changes to the current mandate of INSARAG. It is suggested that this concept be subject to further consideration with future iterations of the Guidelines and checklist and amended accordingly, for participating teams.

Canine Search capability: Given increases in current and future search technologies, there was mixed responses to the issue of canine search capabilities being part of the IEC/R process. A number of interviewees suggested that they should be removed as a mandatory component for heavy teams with canine capabilities representing a separate endorsement for both medium and/or heavy teams, as there is evidence suggesting that many teams struggle to maintain this capability and only focus on them for their IEC/Rs. Conversely, there was strong feedback suggesting that consideration be given to expanding canine search capabilities to include them as mandatory components of medium teams. There can be no doubt that canine detection capabilities represent one of the most effective ways of locating victims trapped in rubble, so it is suggested that the future of canine capabilities for both heavy and medium teams are subject to further detailed review to ensure that such capabilities are managed in the most effective and humane way.

Noncompliance with the standards: There is a perceived lack of consequences for teams that deploy under the INSARAG banner that do not operate in accordance with the Guidelines, such as teams deploying without the full team functionality for which they were classified. It is suggested that such instances should be identified with remedial action taken against non-compliant teams.

Sustainability of the process/cost benefits: There is a clear imbalance in the number of globally classified teams within each region, and it is unclear if there is a maximum number of teams that can be effectively classified and reclassified in the context of global risk profiles. It has been suggested that INSARAG should consider the need to establish whether a threshold number of teams needs to be established to ensure a sustainable approach to the ever-increasing number of

teams and the associated costs of supporting them through the reclassification process. This could potentially be determined by individual regions as part of their respective regional strategies.

Partner/Donor Commitment: An analysis of the last five years of IEC/R reports highlights the fact that 39 countries with the addition of the International Search and Rescue Dog Organisation (IRO) have supported the IEC/R process with the provision of classifiers, mentors and secretariat representatives. This demonstrates a high degree of commitment by countries and organisations, but with work to do to ensure that all teams are fully engaged. It is also recommended that the INSARAG network develops an engagement strategy at team, regional and secretariat levels to keep partners/donors fully informed about the benefits and activities being undertaken by the network.

Information Management: The INSARAG Coordination and Management System (ICMS) utilises 'off the shelf' technology and is considered to be a definite advancement on the Kobo toolbox system. There is however a degree of scepticism regarding its use and introduction (mainly related to the complexity of the information gathered, training methodology and structure and use in the UCC).

It has also been suggested that OCHA should consider using the ICMS within the UNDAC system as it could prove to be a useful tool for both international and national coordination.

Based on the interviews carried out there is positive support, and agreement that it has huge potential to improve the coordination and tasking of USAR teams in the field. Although still in the development phase, the IMWG will need to ensure that the system is able to keep pace with technological advancements in order to remain effective and relevant.

Gender Imbalance: While diversity is seen as one of the key strengths of the INSARAG community, it is evident by the authors of this report that there is a distinct gender imbalance not only in the IEC/R classifier/mentor cadre but throughout the INSARAG community

Recommendations: The review has highlighted many strengths and also areas that need to be considered for improvement and lists **21** recommendations that should be deliberated by the INSARAG network in terms of the short-term wins that will improve the IEC/R process and longer-term goals if accepted.

2. INTRODUCTION

With the growing number of USAR teams from around the world and the changing humanitarian setting, the INSARAG network constantly strives to adapt in order to remain relevant, accessible and fit for the future. One of the key objectives for the network is to ensure that international USAR Teams are prepared to offer qualified services, operate in a collaborative manner, and provide timely life-saving assistance to disaster affected populations, by adhering to the principles laid out in the INSARAG Guidelines and minimum standards developed by the network for the network.

Following a detailed review, the main purpose of this report is to evaluate the two voluntary, independent, peer review-processes; the INSARAG External Classification (IEC) and INSARAG

External Reclassification (IER), in order to identify their strengths and limitations, and to formulate recommendations for the future. Additional objectives for the project review include:

- Making recommendations to enhance partners and donors understanding and commitment to the IEC/R system by identifying the possibilities and importance which it provides to disaster prone countries as well as the effective coordination of internationally classified teams

- Reviewing the evolution of the USAR response information management flow and IT support systems and other technological support tools for teams operating in affected countries and in particular at the following sites, worksites, Base of Operations, USAR Coordination Cells, Reception and Departure Centres

3. BACKGROUND

3.1 Figure 1 highlights the number of successful IECs that have been completed and how the overall system has grown since the concept was introduced in 2005. The outcome of these processes means that there are now 56 internationally classified teams that are available to respond to global disasters.

Figure 1 Summary of IEC/Rs completed 2005-2019
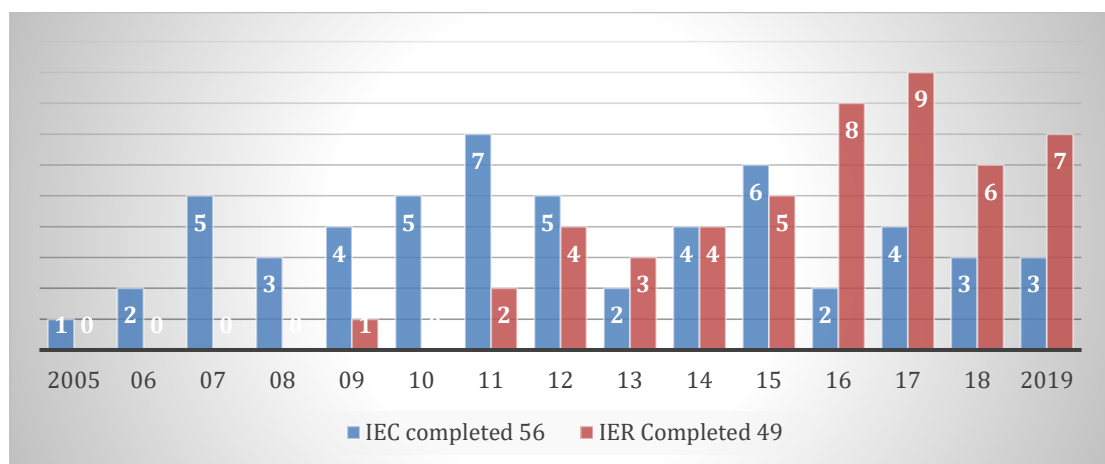
Source: INSARAG Directory

3.2 Figure 1 also highlights that more than 40 teams have also undertaken the IER with a number of teams on more than one occasion. Since 2016, the amount of completed IERs outnumber IECs, by over 50%, which demonstrates a tremendous commitment to the INSARAG process from the teams and countries involved.

3.3 Every year the INSARAG Secretariat requests and receives support from a large number of classifiers with expertise in the different functional areas of management, search, logistics, medical and rescue. The classifiers are nominated and funded by their respective governments and/or organisations and support the different IEC/R exercises by assessing and classifying response capability and technical capacity, to ensure that the operational minimum standards for international USAR are met by candidate teams.

Figure 2 defines the breakdown of classifiers committed by region[3] for the period 2015-19 where a total of 354 classifier places were utilised, with many of the classifiers volunteering on numerous occasions.

Figure 2 Breakdown of Classifiers committed per region (2015-19)
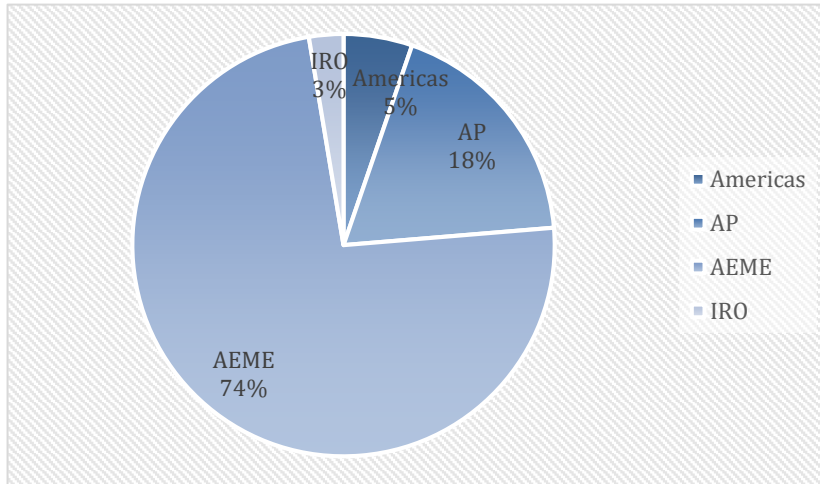
Source: IEC/R reports

4. METHODOLOGY

4.1.1   Table 1 provides a summary overview of the methodological framework and approach taken to gather data used for this review, which in the main used three methods; a literature review, key stakeholder interviews and facilitated discussions in small groups. All of the major points raised were grouped by theme and stored in a database where they could be analysed.

4.1.2   A potential limitation of this methodology was that stakeholders were predominantly drawn from Working Groups and established USAR teams, including mentors and classifiers with considerable experience of the INSARAG system, which may be deemed as being non representative of the broader network, although a request for review submissions was made at the INSARAG Steering Group (ISG) (Feb20), and to Working Group Leads and Chairpersons of the regional groups.

A wider consultative process such as an online survey was not possible because of significant interruptions due to the global COVID 19 pandemic. However, it is argued that the stakeholder groups involved in the review possessed a depth and breadth of knowledge, skills and experience, as well as being deeply involved in the IEC/R process at different levels.

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[3] Including the International Search and Rescue Dog Organisation (IRO)

Table 1 Methodological Framework

Activity	Evidence gathered
Initial consultation interviews	
Completion of interviews with key members of the INSARAG Secretariat	• Gather contextual information, e.g. experience related to the classification process. • Gather opinions on issues relating to the classification process.
Literature review	
Review of IEC/R reports and INSARAG Guidelines (2020)	• In excess of 60 documents and texts have been reviewed in order to gather useful contextual information and to identify trends and recurring themes. • Information on the content and appropriateness of them regarding the IEC/R process. • Information regarding the appropriateness of the current process and written procedures in relation to identified stakeholder needs and strategic objectives.
Targeted consultation interviews	
Completion of interviews with Working Group members (TWG, IMWG, MWG & LTWG) IEC/R Team Leaders, Mentors and Classifiers Instructors	• Confirm understanding of contextual information, e.g. experiences related to the classification process. • Confirm information relating to the strengths and limitations of the IEC/R process. • Confirm information related to the added value of the IEC/R process for involved stakeholders and disaster affected countries. • Validate information related to the need to revise the IEC/R process.
Presentation and request for submissions	
INSARAG Steering Group	• A short presentation was made at the ISG meeting (Feb 20) with a request for submissions to the review.

5. FINDINGS

Following an assessment of the points raised from the interviews, conversations and the document review, the following sections represent the main findings which are addressed in no particular order or priority:

5.1 Appropriateness and benefits of the classification process

5.1.1 Overwhelmingly, interviewees indicated extremely positive attitudes towards the IEC/R process with benefits such as the positive impact on teams' stakeholder integration and mutual interoperability, contribution to relevant countries credibility at national and international level, enhancement of national capacity, the establishment of global operational standards and a process for continual improvement at both the team and individual level.

5.1.2 Additionally, the IEC/R process resulted in tangible benefits in relation to the positive impacts during actual deployments, knowledge exchange between teams/team members, quality assured and strengthened interoperability between teams, unique learning opportunities, better internal visibility of available assets, targeted exposure to requirements such as self-sufficiency and positive impact on preparedness for effective cooperation with other international stakeholders.

5.1.3 According to interviewees, a classified response system offers disaster affected countries added value in the form of an extended, quality approved collection of USAR assets. In addition, the process related implementation of SOPs, training, exercises, working and interacting with other teams increase the quality of involved teams, including associated procedures, both at the national and international level.

5.1.4 The IEC/R process is a proven concept that results in better prepared national capabilities for both domestic and international deployments. The process also offers a way to peer review and improve internal procedures and to enhance logistical issues. It also helps to raise political awareness for the relevant needs and options for building national capacities. It was also mentioned that these benefits are further enhanced when teams attend and participate in earthquake response exercises (ERE) within/outside of their regions.

5.1.5 Interviewees also highlighted that the process provides opportunities to learn best practices from international experts (mentors and classifiers), undertake capacity building initiatives and to exchange ideas and documentation. It also allows them to test their own capability, capacity and readiness in accordance with the Guidelines and checklist, thus benefiting the team itself, the organisation responsible for its maintenance and deployment and, most importantly, disaster prone/affected communities.

5.1.6 The IEC/R is a quality focussed continuous improvement process empowering teams to analyse their respective capability before, during and after classification. On at least an annual basis the Guidelines recommend that teams should carry out a full-scale deployment exercise which not only enhances its competences but also its ability to plan, conduct, and analyse its effectiveness using the international minimum standards as a benchmark for performance and to train potential classifiers. The process also facilitates improvement in organisational administration and enables effective gap analysis and subsequent corrective actions.

5.1.7 The mentoring process and consultative visits, were seen as critical steps in making improvements to a teams' preparedness and the development/validation of appropriate SOPs. Additionally, it was recognised that there are significant personal and

organisational benefits in exposing key personnel to the United Nations (UN) international disaster management environment.

5.18   Overall it was felt that teams recognise the value of being tested against a common framework of standards, and that achieving classification obliges a USAR team to do their best and to be highly competent in delivering support to disaster affected countries. It was also recognised that being part of an international classification system significantly increases the likelihood that the overall response will be of a higher quality, thus resulting in a greater degree of safe and effective operations, allowing maximum opportunity to rescue trapped victims and render humanitarian assistance.

5.2   Minimum standards for the IEC and IER processes

5.2.1   Prior to 2005, teams "self-classified" when applying to be included in the international USAR directory managed by the Office for the Coordination of Humanitarian Affairs (OCHA). The subsequent decisions to implement the two voluntary, independent, peer review-processes, the IEC and IER based on achieving minimum standards, has since served the international community well. However, significant feedback was received relating to the need to now consider increased minimum standards for both the IEC and IER checklists.

5.2.2   Minimum standards are generally seen as one of the strengths of the IEC/R system as they enable international consistency for all accredited USAR teams and are key to accommodating different national standards to be used to achieve operational goals. However, minimum standards are also seen as detracting from the evolution of the system particularly in light of technological and operational developments. In other words, what was a minimum standard 10 years ago might now not be applicable for all teams. It is argued that the current checklist, particularly for IERs is not conducive to improving minimum standards even with the allowance of annual amendments which are now an accepted practice.

5.2.3   The current checklist is deemed as being suitable for non-accredited teams undertaking the peer review process for the first time, but the use of the checklist for IERs is seen as limited in its ability to assess and showcase more developed technical aspects/capabilities of teams. It is strongly felt that the minimum standards should evolve over time to complement developments in technology, equipment and field operations, but being mindful that the ability to procure the latest technology and equipment may not be an option for all teams, therefore a careful balance needs to be struck.

5.2.4   It is anticipated that after an initial IEC, teams will continue to develop in operational capacity and competence by embracing emerging technologies and operational techniques. Consequently, it should be expected that after a 5-year period[4], teams should be able to demonstrate enhanced capability and improvement from its original classification. It has to be said that not all interviewees were in favour of an additional set of standards but based on the feedback received, there was a consensus in favour of enhancing the IER process to capture anticipated improvements.

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[4] Original time sequence: Initial IEC; IER at 5-year mark; new IEC at 10-year mark, and so on. The new IEC was felt important to account for changes of personnel within a team, as well as to incorporate any Guideline changes & technical advances.

5.2.5 Additionally, there were issues raised in relation to the gathering of evidence for teams undergoing IERs. As an example, establishing a Base of Operations (BoO) is both time and resource intensive with many experienced teams clearly evidencing this ability on numerous occasions, including during actual deployments, so given the time limitations of IER exercises and in light of the artificially condensed timelines, such basic transactional evolutions were perceived as a potential waste of time. It has been proposed that these activities could well be fast tracked in order to use the time for USAR teams to showcase other areas of their operational capability such as the use of Remote Pilotless Aircraft (drones), water purification, etc. Consideration of expanding the current pre-greening process is seen as a way to achieve this objective.

Recommendations

- **Following consultation with the Team Leaders Group, a policy decision is taken at the ISG on whether teams should be assessed against the same standards achieved on an IEC or whether they should be assessed against an enhanced recertification process.** The rationale behind this approach is about ensuring that standards are continuously improved and updated and therefore future proofing the process.

- **Based on the ISG decision; a more advanced and less transactional IER checklist should be developed to systematically measure effectiveness and quality of technical capabilities to allow teams undertaking their first, second or third IER to demonstrate a higher level of "maturity" and professionalism. (Dependent upon acceptance of recommendation Policy 4).** (Current methodology allows for the introduction of new classification checklists to ensure continuous improvements in standards being assessed, outside of the program of INSARAG Guidelines).

5.3 IEC/R exercises

5.3.1 The IEC/R exercises are designed to reflect, as close as possible "real life" situations and to challenge the teams managerial, operational, medical, and logistical skills in an international context. Using the IEC/R exercises as a platform to classify teams has significant benefits as teams undergo peer assessment while actually undertaking a real-life scenario as opposed to a number of prescribed skill demonstrations.

5.3.2 A number of classifiers stated that a high percentage of the exercise scenarios are designed to be easily achievable and considered not challenging enough, especially for teams undergoing re-classifications. This may be due to unsuitable exercise sites, props designed and constructed by lesser experienced staff, or props built to specifically achieve positive marks on the checklist rather than what is actually encountered on a true mission. It is suggested that an opinion on the suitability of the chosen exercise sites and scenario should form part of the Go/No-Go decision-making process between the Secretariat and the Mentor in order to pre-certify a site before a classification activity can be conducted.

5.3.3 Mentors have stated that in some cases, IEC/R exercise organisers were unclear on what was expected of them, with a lack of understanding of how to plan for and manage a large-scale exercise. Although the Guidelines do give a general overview of how the 36-hour

simulation exercise should be structured there remains wide discretion with the IEC/R exercise organisers in how this should be achieved.

5.3.4   A number of classifiers stated that some of the EXCON teams were reluctant or unwilling to make changes to the exercises (mainly because the USAR team had gone through rounds of rehearsals and changes made would disrupt their rhythm). Conversely, it was also noted that some of the classifiers were quite demanding on what they were expected to have, and how they expected the exercise to be delivered, which in certain cases caused a degree of frustration and lack of cooperation, although it is accepted that it is the classifying teams responsibility to ensure that the provisions of the Guidelines and checklist are followed and met on the IEC/R.

5.3.5   For IER exercises, there was a suggestion that classifiers should have greater autonomy to design an evolution (unique to that designed by EXCON) after visiting the exercise worksites on the first day. This would allow the EXCON and team to be fully tested on their site management and USAR skills and competencies. Linking this concept to 5.2 could be a way to differentiate between IECs and IERs.

5.3.6   Over recent years there has been a developing collaboration between DG ECHO[5] and the ERS in respect of utilising the platform of the EU MODEX field exercises to facilitate European Member State teams seeking reclassification. Subject to sufficient notification an appointed EU Desk Officer is responsible for prioritising the opportunity for these teams to utilise the MODEX as a platform to undertake their IER. Many European based INSARAG classified teams have used this regional initiative and greater emphasis on such platforms to strengthen cooperation is recognised to reduce costs, strengthen coordination and benefit response, while ensuring that the IER standards and requirements are not compromised.

5.3.7   In summary, it can be concluded that there is a perceived variance in the levels and quality of the exercises, and it was felt that in some cases the true performance levels of a team was often difficult to assess due to the artificial aspects and familiarity teams have with the sites and scenarios being used.

Recommendation:

That consideration is given to establishing and tasking a new or existing Working Group with the development of a standardised suite of exercise planning documents that are made available on INSARAG.org. A team must show evidence that they have followed the guidance in this regard for their exercise.

5.4 IEC/R Classifier standards

5.4.1   Classifiers are seen as absolutely essential to the IEC/R process and are nominated by Governments and organisations/authorities to form a register maintained by the INSARAG Secretariat. Table 2 highlights the numbers of classifiers committed by countries for a 5 period (2015-19). For the year 2019 there were 150 plus nominations

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[5] Directorate-General for European Civil Protection and Humanitarian Aid Operations (DG-ECHO)

which demonstrates an extremely high level of commitment from classifiers and sponsoring organisations.

5.4.2 Classifiers have generated by far the most amount of feedback from interviewees and the review team noted an extremely high level of commitment from interviewed classifiers to ensure that the process is carried out in accordance with the Guidelines and minimum standards.

5.4.3 A consistent theme was the perception of differing standards and approaches taken by the classifiers, which may be an indicator of a lack of preparation/training and unfamiliarity with the content of the Guidelines and checklist. A lack of basic English language and writing skills was particularly highlighted as an issue with a number of the classifiers.

Table 2 Numbers of classifiers committed (2015-19)

Austria	18	France	23	Malaysia	4	Sweden	6
Australia	26	Finland	7	Morocco	2	Singapore	9
Armenia	2	Germany	22	Netherlands	15	S.Korea	2
Belarus	4	Hungary	11	New Zealand	12	Switzerland	15
Belgium	7	Iceland	2	Norway	2	Turkey	5
Chile	2	Italy	2	Oman	4	UAE	3
China	14	IRO	21	Poland	11	UK	16
Czech Rep	9	Japan	13	Russia	8	USA	22
Denmark	5	Jordan	9	Saudi Arabia	6	Qatar	1
Estonia	2	Lithuania	4	Spain	8		

Source: IEC/Reports (2015-19)

5.4.4 The review also underlined the importance of having a highly experienced IEC/R Team Leader (and supported by an experienced Secretariat Representative) assigned to lead the process in a fair and transparent manner and to act as the main interlocutor for the team during the process. The review team also noted that there are also differences in approaches by Team Leaders which can lead to variances in consistency for IEC/R classification teams as well as teams undertaking the process.

5.4.5 The number of classifiers at IEC/Rs was also highlighted as an issue, especially for teams undertaking an IER. **Annex A** highlights the numbers of classifiers per IEC/R over the most recent 5-year period (2015-2019). An analysis of the figures shows a variance in the number of classifier attendees which range from 11 to 5 for some heavy team IEC/Rs. It is accepted that insufficient classifiers were sometimes due to last-minute unavailability's, but an onerous burden was placed on the remainder of the classification team, having to multitask across two exercise sites. For medium Team IEC/Rs there was

a variance of 10 to 5 for classifiers in attendance. It is recommended that the number of classifiers should reflect the requirements of the Guidelines with a reserve classifier identified to fill in due to late withdrawals, so that IEC Team leaders and hosting teams can plan appropriately. The INSARAG secretariat must ensure that quality and minimum requirements are met at all times, but it is accepted that this is often difficult to manage when trying to be fully inclusive, and with unforeseen late changes.

5.4.6   The reliance on classifiers to underpin the process often contains a degree of goodwill i.e. in some instance's classifiers access personal leave to attend IEC/Rs. Therefore, it is important that they are used as efficiently as possible, particularly given the costs associated with travel and accommodation. The use of large numbers of classifiers in excess of the numbers recommended in the Guidelines is not an efficient and effective use of these valuable resources.

5.4.7   Interviewees also stated that it was critical to achieve a good balance of classifiers but also ensuring that the composition of classification teams is based on personnel with high levels of experience, skills and objectivity. Good classification teams complement each other's strengths and weaknesses and should include a blend of experiences, e.g. in the event the classification Team Leader does not have strong English language or writing skills, then consideration should be given to appointing a Deputy Team Leader who has English as a first language or an administrative position to compose the report and advisory notes (as very often the classifiers may not have the time to do this).

5.4.8   The IEC/R process relies on the quality of the IEC/R cadre as described in the TOR[6] , and it has been suggested that a working group could support the Secretariat by reviewing the current cadre and making recommendations for future processes based on skills, currency, availability and experience. The Secretariat would retain overall responsibility for the appointment of classifiers by endorsing or otherwise the recommendations of the working group and would provide an additional benefit in removing this time-consuming task. It is suggested that the Training Working Group (TWG) could be tasked or a new working group could be established to trial this new approach for a set period of time.

5.4.9   The availability of appropriate functional competence is essential to the credibility of the classification process, and although the Guidelines[7] clearly state that:

"*INSARAG provides training for only IEC/R Team Leaders/Deputy and Mentors. It is the responsibility of the Sponsoring Agency to ensure that those nominees for IEC/R classifiers are fully prepared for the assignment*"

Many references were made for the need to have a more formalised approach to training for classifiers, in addition to the requirement to attend at least one IEC/R as a 'classifier in training'. In 2012 INSARAG identified the need to conduct training for IEC/R classifiers and more specifically Team Leaders and Mentors in order to:

- Improve the quality and standard of the IEC/R program
- Improve the consistency of the assessment process
- Provide Guidelines to assist in the standardisation of the assessment process
- Improve the management of the IEC/R process

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[6] Vol II, Manual C (pages 45-63) Terms of Reference IEC Cadre.
[7] Vol II Manual C Section 3.4 Selection and Evaluation of IEC/R Classifiers

- Improve communication between the stakeholders in the IEC/R process
- Create awareness of the potential areas of contention within the IEC/R process
- Clarify areas of doubt and inconsistency within the IEC/R checklist

5.4.10 Subsequently this review has highlighted the need to have, where possible, all classifiers trained before undertaking live IEC/Rs in order to provide clarity and a common understanding of the process. It is suggested that a more 'hands on' approach to training, referencing lessons learnt, sharing best practices, enabling exchange of ideas between classifiers would greatly enhance the current situation.

Recommendations:

- **That consideration is given to establishing a working group or tasking a current working group to recommend classification team members on an annual basis based on an analysis of nominated and available classifiers to ensure a more considered approach is adopted to team selection.**

- **That consideration be given to the introduction of an IEC/R code of practice section on *INSARAG.org* that can be accessed by classifiers and classifiers in training.**

- **That the number of assigned classifiers should reflect the requirements of the Guidelines with a reserve classifier identified to fill in due to late withdrawals.**

- **That consideration is given to the introduction of a formalised training program for classifiers that includes:**
  - Review of classifier, mentor and team responsibilities
  - Realistic scenarios to test understanding of the process and documentation
  - How to undertake an analysis of the exercise documentation and worksites to determine suitability
  - Documentation relevant to the IEC/R process
  - A systematic review and discussion of the checklists in order to reduce the potential for inconsistency
  - Coaching on potential conflicts and soft skills techniques
  - Providing an open forum to discuss lessons learnt (positive and negative) during previous classifications
  - An overview of the process' from a classifier point of view addressing:
    - How are classifiers deployed during activities?
    - What are the steps before the actual IEC/R? (Documentation, communication, obligations)
    - Expected conduct
    - Arrival at the exercise site (When do classifiers arrive? Meeting with the IEC team, developing a work plan, preparing and discussing with key personnel, EXCON etc.)
    - Writing the 'reports' etc. How long should they be, what to focus on, etc.

5.5 Mentors

5.5.1   This review has highlighted and reinforced the critical role played by the appointed Mentors cadre. Since 2015, it has been mandatory for teams to select and appoint a Mentor, and the inclusion of this role has been seen as vastly improving the support to teams undertaking the process and to the quality of the overall system. However, there were a number of comments regarding the role during the actual exercise phase (phase 3), with statements suggesting that some Mentors were seen as unduly influencing the outcome of the teams' performance and sometimes the flow of the exercise. This could be seen as understandable as the Mentors invest significant time and reputations in undertaking this role, so it is in their interests that the team performs as well as possible. However, becoming too involved can be perceived as coaching for success and compromising the spirit of the process. More clarity and perhaps training needs to be provided to ensure that Mentors completely understand their role of being available to provide support and clarification to the INSARAG Secretariat, IEC/R Classifier TL, EXCON and the USAR Team[8] during the actual IEC/R exercise in a transparent and objective manner.

5.5.2   With the addition of the pre greening [9]section in the 2020 Guidelines, Mentors are viewed as being even more critical to the IER process as they have the opportunity to gather evidence to support the preparedness activities of the team and to advise the Secretariat and IEC TL of the subsequent steps required to demonstrate performance against the minimum standards in the checklist. This will in turn inform the direction that the IER could take, and the number of external resources required to support the desired outcomes. Therefore, it is vitally important that they fully understand the process and have a high level of knowledge/experience of a USAR teams 5 functions in order to be able to make informed judgements.

Recommendation:

That the role and approach of the Mentor during an IEC/R is reclarified at the next IEC/R Team leaders and Mentors course, to ensure complete understanding of what is expected.

5.6 Flexible response operations and the impact on the IEC/R process

5.6.1   Since the inception of the Guidelines and the introduction of the IEC/R system, there has been significant change in the humanitarian landscape. Both regional security and climate change are examples of this changing landscape. There has also been discussion over time of the best way to utilise INSARAG teams in disasters not characterised by sudden onset USAR operations. In fact, given the resources and costs associated with the deployment of specialist teams it makes economic sense to explore how these capabilities can be used in differing environments.

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[8] As per Manual 2C Annex 15 Mentor TOR

[9] Vol II Man C sect 8.1.4

5.6.2   It is now widely accepted that the impacts of climate change will result in greater frequency and severity of extreme climatic events with the associated impacts on the social, environmental and financial environments. Using the European region as an example, extreme weather and climate related events caused 90,325 fatalities across its 33 member countries[10] between 1980 and 2017. During the same period, weather and climate-related extremes also caused economic losses of approximately EUR 453 billion, which accounted for 81% of total losses caused by natural hazards.[11] Climate change is a significant exacerbating factor in extreme weather events. Recent data shows that floods and other hydrological events have quadrupled in frequency since 1980, while climatological events (including extreme temperatures, droughts and forest fires) have more than doubled in frequency over the same period. It is expected that climate change will lead to increased frequency and intensity of extreme weather events going forward.

Historically, some USAR teams, have responded to non USAR emergencies/disasters in what could be described as an "ad-hoc" manner, therefore, it is reasonable to investigate how they can be used when climatological related events overwhelm national capacities. Essentially USAR teams represent a platform to enable highly specialised teams to operate in austere environments for set periods of time. Adjustments to the normal team structure could realign classified teams to allow a more flexible response under the INSARAG umbrella. The basic functional areas of Management, Medical Support and Logistics would be used to ensure such responses would be undertaken as safely as possible.

5.6.3   Given that USAR teams deploy under the auspices of the United Nations it has been suggested that it would be beneficial for teams to be able to report on compliance with a broader range of UN Humanitarian issues. This may be particularly relevant if USAR teams undertake a wider role in humanitarian response beyond that of USAR. Such a suggestion would see the expansion on data collected in relation to search and rescue such as the number of victims removed as well as deceased recovered, to targeted data on a range of broader humanitarian aid delivered, including assistance provided to vulnerable communities, displaced persons, children, women, etc. This would then become incorporated into the current ICMS information management system to enable teams to report on a broader range of humanitarian issues.

5.6.4   As part of this review it has been concluded that consideration should be given for the flexible response concept to be potentially included in future editions of the Guidelines and an option to explore its inclusion in the IEC/R process, for teams signed up to its use.

Recommendation:

That work is commissioned to explore the flexible response concept for classified USAR teams, including the impact on the future versions of the Guidelines and IEC/R checklist.

5.7 IEC/R Documentation

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[10] The European Environment Agency's member countries are the 28 EU Member States, Iceland, Liechtenstein, Norway, Switzerland and Turkey.

[11] European Environment Agency (2019), Economic losses from climate-related extremes in Europe.

5.7.1   Volume II, Manual C, External Classification/Reclassification (IEC/R) 2020 version describes the IEC/R process and is based on the experiences and feedback from experienced IEC/R Classifiers, Mentors and Classified USAR Teams. It represents a valuable guide to all USAR Teams globally as it carefully outlines the current INSARAG Minimum USAR Operational Standards with interviewees stating that it is carefully adhered to by all stakeholders involved in the IEC/R process.

5.7.2   A crucial part of the classification process is the final report which details the performance outcomes of the team and, more importantly, makes recommendations for future improvement planning. During the course of the review, over 60 reports from 2015 onwards were scrutinised in an attempt to extract identifed good/best practices. However only a very small percentage of the reports contain references to good practises carried out by the respective team or regarding due process. It can be further summarised that even those identified would not meet the following definition[12]:

"*A working method or set of working methods that is offially accepted as being the best to use in a particular business or industry; usually described in detail".*

Given the global reach and the number of teams undergoing the process this is seen as a significant lost opportunity for the network as a whole to learn from each other and improve standard operating procedures and techniques.

5.7.3   It was also noted that there does not appear to be a process to follow up on the areas identified for improvement until the next IER. Given that this is a 5 year period it seems an unduly long time especially for areas that could be considered as safety critical.

5.7.4   While the adoption of advisory notes is seen as a critical part of IEC/R reporting, there is an identified need to review the current reporting system to include the introduction of a mechanism to review common weaknesses and strengths across IEC/R reports and to identify emerging trends and issues that could affect the wider INSARAG community. It is suggested that any significant findings are reported in detail at the annual Team Leaders meeting, and to the classifier's cadre, which could be done remotely or in the form of an annual feedback report.

5.7.5   The use of the checklists to guide classifiers and teams is without doubt a well embedded concept with the general performance descriptors considered to be of a good standard. However, there was much discussion and differences of opinion regarding the application of the colour coding system when applied to the IEC/R process. This system currently uses the following 3 colours to guide classification teams when they are being peer reviewed:

Green	Team meets or exceeds the minimum standards.
Yellow	Team meets the minimum standards; however, the IEC/R team has determined that further improvements are necessary. The reasons for assigning a yellow box will be provided in the Advisory Notes (Section 4) of the IEC Report.

	Team has not met the minimum standard. Anything marked as red requires the IEC/R team to work with the USAR team and its Mentor to develop a Corrective Action Plan (CAP) which is submitted to the INSARAG Secretariat for consideration.
Red	

Note: The INSARAG Recognised National Accreditation Process (IRNAP) [13]also uses the green, yellow, and red system but in addition uses **Orange** "RT" (which represents "Requires Time") and indicates the aspect still does not meet the standards because it has pending conditions that impair compliance with the minimum standards.

The colour coding system provides a very visible indicator to how a team has performed, and there are examples of countries that have used it to highlight and apply for additional funding (following an IEC/R), so it may well serve a useful purpose. However, feedback suggests that there is a significant issue with classifiers not willing to issue a red observation due to the consequences of a perceived failure/deferral of the process. Although the 2020 Guidelines (sect 10.1.1) now gives clarity on what should happen, classifiers interviewed have confirmed that they would still be reluctant to do so, which is clearly an issue that requires further discussion within the network. Additionally, a number of interviewees questioned whether the colour codes added any real value to the checklist, and highlighted that there it adds a perceived degree of competitiveness amongst teams with the number of yellows issued being seen as an unwritten judgement on how a team has performed when compared with other teams, although whatever system was used it could be argued that there will always exist a degree of competition between teams, but this can be seen as detracting from the intent of the IEC/R process.

5.7.6   One of the major strengths of the checklist is the fact that it is developed from the 'bottom up', and now being a "living document" that is reviewed and revised annually by the TWG to reflect feedback from the Regional Meetings, the INSARAG Team Leaders, other INSARAG Work Groups as well as the INSARAG Secretariat. This is seen as a huge improvement and provides a constructive opportunity for continuous improvement.

Recommendations:

- **That the INSARAG network considers the pros and cons of the colour coding system on the IEC/R checklist in order to make a judgement on its future use.**

- **That the current IEC/R reporting system is reviewed to ensure that areas of considered best practice can be formally captured in a standardised format.**

- **That IEC/R reports are analysed on annual basis with trends in any areas of technical weakness and best practice identified and communicated to the Team Leaders meeting and IEC/R classifiers cadre. Furthermore, a platform should be explored where Team's and their Mentors can be invited to engage in a virtual learning setting.**

5.8 Sustainability of the process/cost benefits

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[13] For the purposes of this report only the IEC/R process has been reviewed and no conclusions have been drawn on the IRNAP verification visit process.

5.8.1   From the inception of INSARAG, the main focus has been on developing international USAR procedures, Guidelines, best practices, and strengthening cooperation between interested organisations during the emergency response/early relief phase. As the network has developed, the number of classified teams have increased to the current number, but it is presently unclear if there is a maximum number of teams that can be effectively classified and reclassified and able to meet existing defined risks within each region.

5.8.2   Figure 3 highlights the percentage breakdown of Light, Medium and Heavy classified teams per region and the clear differences in terms of numbers slanted towards the AEME region and links to the issue of sustainability of the current process and potential capacity issues associated with the increasing number of accredited teams and subsequent increases in IERs (As highlighted in Figure 2).

Figure 3 Breakdown of classified teams per region
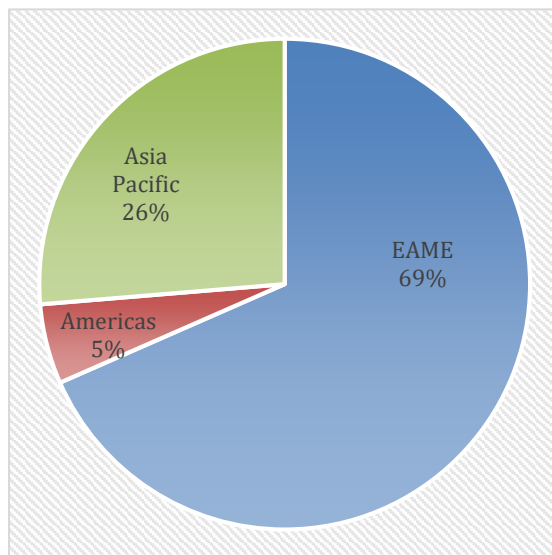
Source: INSARAG Directory

5.8.3   INSARAGs Global strategy 2017-2020 aims to expand and facilitate wider outreach and membership/participation in disaster prone countries [14] but it may be timely to consider placing limits on the number of classified teams, especially from within the AEME region, to ensure that opportunities are maximised for those areas of the world where the number of teams should be increased, again linking to the global goal of 'Think Global, Act Local'.

5.8.4   It is recognised that IEC/Rs are both time and resource intensive and can represent an economic burden to teams, but in order to achieve the minimum standards required of the Guidelines, it is felt that the current process which necessitates a full IEC to take place for new teams and a potentially reduced IER process (based on pre greening) allows a degree of flexibility and an opportunity to reduce time and cost.

This flexible approach is very much based on the overall activity levels of the team during the previous 5-year period and the provision of sufficient evidence to the Classifier TL by

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[14] INSARAG Global strategy 2017-2020 Goal 1 Objective 1.6

the Mentor and country Focal Point in order to allow this to happen, so may not be applicable in all cases.

Furthermore, it is felt that Volume II Manual C Section 8.1.4 only briefly introduces the subject of pre greening and does not provide enough clarity and detail for it to be successfully implemented. It is recommended that a more comprehensive approach for evidence gathering is considered to enhance the current pre-greening process with the Guidelines and Team Leader/mentor training course further developed in support of this initiative.

5.8.5   The current system of telephone conferences initiated by the Secretariat work well to ensure that key milestones and the progress of teams is tracked and recorded and also allows the opportunity to clarify doubts well in advance of the exercise phase. This is seen as a cost-efficient and effective process.

Recommendation:

That consideration be given to expanding the current pre-greening process to include a more comprehensive approach to the gathering of evidence for IERs, thus streamlining the current system and making it more efficient.

5.9 Search Canines

5.9.1   A number of interviewees raised the question whether canine search teams should be an integral part of a heavy teams' capability, particularly in light of improvements in current and future search technologies. Additionally, there are a number of examples where canine welfare is compromised by the need to comply with the current heavy team requirements, particularly given differences in cultural tolerances to canines. There is also evidence to suggest that some teams struggle to maintain this capability and only focus on them for their IEC/Rs.

While there is no doubt that canine teams significantly increase the effectiveness of USAR teams search component, the review highlighted alternative opinions on their use. Some interviewees questioned whether canine capabilities remain a mandatory requirement for heavy teams and are consequently assessed as part of the IEC/R process, whilst others emphasised the critical need to maintain existing canine capabilities for heavy teams and potentially expand them as a mandatory requirement for medium teams.

5.9.2   Given the polarised views relating to canine search capabilities, it is suggested that further investigation into this issue be undertaken with consideration as to how canine capabilities can best be managed. Options may include the provision of stand-alone canine capabilities being matched to teams at the time of deployment. In the event that the current requirements for canine search remain unchanged or expanded to medium teams, then canine welfare should be emphasised and expanded in IEC/R checklists.

Recommendation:

That the issue of mandatory canine search capabilities for heavy teams is subject to further review. Regardless of the outcome of this review it is recommended that canine welfare issues be included in future versions of the IEC/R checklists. (The application of a suite of search equipment and techniques by teams would still be a major requirement for IEC/Rs).

5.10 Compliance with the standards

5.10.1 A number of comments related to the lack of ramifications associated with classified USAR teams deploying internationally in breach of the Guidelines and specifically the classification status of the relevant teams. There are examples from the 2009 (Padang), 2010 (Haiti), 2015 (Nepal) and such occasions were seen as reflecting badly on the entire USAR Community.

5.10.2 It is suggested that this issue goes against the spirit of the IEC/R process and the intent of the Guidelines, which clearly state[15]

"USAR Teams are expected to respond in the configuration in which it was classified. The exception is when at the request of the affected country the Heavy Team elects to respond as a Medium or Light Team (or Medium responds as Light)"

All INSARAG classified USAR Teams are expected to uphold the highest standards of integrity and professionalism as they are deemed to be representing the INSARAG community. To date no warnings have been issued or any Team's classified status revoked, which it has been stated sends the wrong message to other teams that have deployed and operated in accordance with the provisions of the Guidelines.

Recommendation:

That consideration be given to undertaking a review of future INSARAG accredited team deployments to ensure compliance with the Guidelines. In the event that a team has not deployed in accordance with its status, remedial action is taken against the team, as directed in the Guidelines. OCHA, UNDAC teams and Government agencies coordinating the response should be requested to provide feedback on such occasions.

6. PARTNERS AND DONORS COMMITMENT TO THE IEC/R PROCESS

6.1.1 An analysis of the last five years highlights the fact that 39 countries with the addition of the IRO have supported IEC/Rs with the provision of classifiers, mentors and secretariat representatives. Table 2 provides a breakdown of the classifiers committed by country, and also highlights that a number of countries with classified teams have not committed resources, but who may commit to the network in other ways such as attendance on Working Groups, or organising regional simulation exercises. With these numbers it can be positively interpreted as showing a high degree of commitment by countries and organisations, but with work to do to ensure that all teams are fully engaged.

6.1.2 The network needs to be clear and explicit on the benefits of not only undertaking the process but also the benefits gained by continuing to support and partner further development and delivery of the process, by the provision of funding for Working Group members, mentors and classifiers. Openness, transparency and being clear about the

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[15] Volume II Manual C section 12 Obligations of Classified USAR Teams

benefits to countries/teams/individuals is considered to be the basis for continued support. All stakeholders should feel inspired to clearly visualise the process of achieving INSARAG goals, therefore, it is essential that the partnership be grounded in an unwavering belief in the integrity of the process and what it is aiming to achieve.

6.1.3 It is hard to argue a price on a single human life but the benefits of having a classified system with a predictable level of response brings many benefits to partner/donor organisations that include:

- Exerting an active role in overseas humanitarian responses that maximises efforts by the UN and wider humanitarian systems.
- USAR responses are highly visible, often dramatic and generate highly positive publicity, with evidence to support the fact that rescues and associated personal interest stories help to generate significant public support and funding for humanitarian agencies, which is used to assist the victims of a disaster.
- Deployments can provide Governments with valuable opportunities for political dialogue in unlikely circumstances and demonstrate unity in the humanitarian endeavor of saving lives and reducing suffering.
- In terms of individual and organisational benefits, there are many but having a classified team that has had the experience of attending disasters overseas directly enhances the resilience of the hosting country as these skills and experience are directly transferable and used to also benefit local communities.

Partners and Donors are rightly seeking to ensure that investment in their teams and the IEC/R process is seen as complementary and as effective as possible. With the number of countries and teams within the INSARAG network it is assumed that they comprehend the benefits highlighted, but it always assists to have an effective communication strategy in place, to reinforce them.

6.1.4 It is suggested that the INSARAG network should consider the development of a comprehensive engagement strategy specifically targeting key partners and donors by utilising a multi-faceted approach to be used to keep stakeholders and partners informed and to receive feedback. It was also suggested that such a strategy should adopt a three-tiered methodology at:

- **Team Level**

It is suggested that teams should develop their own engagement strategy to better market the Guidelines and the IEC/R process to ensure stakeholders have an understanding of the benefits of being a member of/and supporting the INSARAG community. This strategy would target national/state sponsors and decision makers who are responsible for supporting the development of national and international capability with an emphasis on the benefits for disaster impacted communities. Additionally, the strategy should also focus on the benefits to the domestic capability by being involved in the INSARAG network. Such a strategy would seek to leverage from INSARAG related exercises, meetings and other forums held within the team's jurisdiction.

- **Regional Level**

Each of the three INSARAG regions would develop an engagement and communication strategy as part of their annual business planning and be responsible for ensuring that regional events are marketed to key stakeholders. Regional chairs

would promote all relevant regional INSARAG activities and provide support as required.

- **Secretariat Level**

    It has been suggested that the Secretariat should provide a stronger leadership role in marketing INSARAG at the international level by developing and maintaining a comprehensive communication strategy that widely promotes INSARAG activities, including major international INSARAG events such as Team Leaders meetings, global meetings, regional meetings, regional earthquake exercises as well as major disasters to which INSARAG teams deploy. Additionally, the Secretariat could play a bigger role in the development of guidance and templates for effective communication at the team and regional levels.

6.1.5   Feedback from interviewees included the following points targeting sponsors and stakeholders that should be addressed at all three levels:

- Promotion of wider ownership of the classification system and standards for USAR teams, emphasising the professionalism and capacities of teams.
- Strengthen the commitment of countries to consider requesting INSARAG accredited USAR teams in the aftermath of a disaster requiring international USAR response.
- Emphasising the direct benefits at the domestic level by being involved in the INSARAG community and specifically developing and maintaining INSARAG accredited USAR teams.
- Involving international partners to provide specialist technical and/or operational on-site support and monitor the activities of USAR teams during exercises and deployments.
- Promoting USAR teams' capabilities for non-USAR related disaster deployments by developing a menu of capabilities that USAR platforms can provide.
- Marketing the support provided by experts within the USAR community for USAR assessment missions, regional exercises, IEC/Rs, working group meetings, team leader's meetings and other relevant fora.

Recommendation:

That INSARAG consider the development of a comprehensive three-tiered engagement strategy specifically targeting key partners and donors by utilising a multi-faceted approach to keep stakeholders and partners informed and to receive feedback. Consideration should also be given by the Secretariat to engage an intern with skills in marketing and communication to develop strategies, templates and guidance notes to achieve the aforementioned.

7. INFORMATION MANAGEMENT AND TECHNOLOGIES

7.1   Background

7.1.1   It is a well-recognised fact that the management of information within a disaster is getting increasingly more complex and that gathering, processing, validating, analysing and

communicating information under austere conditions of inherent uncertainty is extremely challenging. Advances in technology have led to a significant increase in the amount of available information, and based on previous deployments and exercises it could be said that the interoperability of systems for information sharing and exchange is very limited between USAR teams from different countries and relevant coordination structures as they have normally developed their own individual systems. This fact was recognised by the INSARAG network as an area that needed a great deal of improvement, to maximise rescue opportunities.

7.1.2   However, given the diversity of the INSARAG network there exist undoubted challenges to developing and implementing an information management (IM) system that would be accessible, well understood and accepted by all teams/users. Also given the reporting complexities of working in disaster environments, IM systems need to be robust and easily maintained in the field. Experience indicates the more complex such systems are, the less likely they will be correctly used during time critical USAR operations. Therefore, it is imperative that the introduction of a such a system is simple to use (can also be a "paper-based" approach to cover the instances when connectivity is not possible, and/or a team does not have the capability) for the collection of data by teams in the field as well as the collation and analysis of the data at the coordination level. Any system that relies on a high level of expertise to operate especially for non-native English language speakers is less likely to be accepted by global USAR teams.

7.1.3   For background and reference, Table 3 gives an abbreviated overview of the development of the use of electronic IM systems used by the INSARAG network:

Table 3 The development of electronic USAR Information Management

Year	Development/Progress
2011	Operations Working Group was established in 2011 and first proposed a standard information system for use by USAR teams in the field.
2012 2013	Excel data collection forms developed for use by teams. Their use was not universally accepted
2014	First proposal for an electronic coordination tool for USAR teams. At this time, OCHA utilised the KoBo Toolbox from the Harvard Humanitarian Initiative (HHI) as their internal standard for data collection.
2015	• First set of electronic forms based on the INSARAG Guidelines 2015 were developed on the KoBo platform. • At the end of 2015, during a SIMEX in Chile they were successfully tested.
2016 2017	Forms and platform were fine tuned to incorporate analysis and interpretation of the forms.
2017	• Approval from ISG to establish the KoBo Working Group and later renamed the Information Management Working Group (IMWG). • KoBo used at all IEC/R's in trial mode and non assessible.
2018	• Mandatory use of Kobo platform was first used at the IER of Finland USAR team in Tinglev (Denmark). • It was highlighted that training was required at the coordination level so that data could be properly analysed and presented. The use of Excel sheets was proving problematic.

	- It became clear that:
	    - KoBo was an effective data collection tool, but it was limited in its analytical capabilities for USAR coordination,
	    - KoBo was incapable of providing an easy end-to-end solution or effective analysis capability,
	    - Moving data collected on Kobo to a dashboard was extremely personnel and process intensive.
	- During the Team Leaders Meeting a replacement system for KoBo was introduced, which was based on ESRI[16] commercial off the shelf software. Eventually termed ICMS, it was configured to capture and display information and:
	    - Provide an ability to analyse data resulting in actionable information,
	    - Promote timely, informed decisions to ensure coordinated taskings and resource management,
	    - Provide information in near real time that is accurate and relevant to all stakeholders.

2019	- The new system was first tested at the IER of the Netherlands during an EU MODEX[17], with positive feedback received.
	- Development phases 1 and 2 (field data collection using survey 123, and the Operations dashboard) are complete.
	- Three further phases are planned:
	    - Phase 3 will facilitate the production of reports directly from the submitted data,
	    - Phase 4 will facilitate direct tasking of teams,
	    - Phase 5 to allow retrospective enhancements and upgrading)
	- During 2019, further testing during IEC/Rs and ERE.
	- Data Collection Tool and the Dashboard tested at the coordination level at the UCC ToT course in New Zealand.
	- Kingdom of Saudi Arabia sponsors ICMS for the next 3 years. (4,500 licenses).

2020	- From July the new ICMS is mandatory at all IEC/R's. - Continued development of the system

Source: Peter Wolff (IMWG Chair)

7.2   Information Management - Analysis

7.2.1   It is obvious that ICMS training has been delivered on UCC and IEC/R TL and Mentors courses with the addition of ad hoc training at various field exercises, in addition training accounts/licenses have been established for all teams to practice using the system, but feedback from teams suggests that the competence required to operate the ICMS needs

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[16] ESRI is the global market leader in geographic information systems (GIS) with 49 offices worldwide.

[17] EU MODEX: European Union Modules Field Exercise

to be relatively straightforward and cost effective to achieve. In light of the economic constraints currently faced by some teams, sponsoring organisations may feel reluctant to fund additional travel and accommodation (as well as costs associated with the release of key staff) for face to face training associated with the introduction of the ICMS. Therefore, it is seen as critical that competence can be achieved by the delivery of centrally produced training packages that can be delivered via on-line platforms and supported by training documentation and guidance notes.

It has been stated that a training strategy is being developed that includes an online 3-4 hour session with a standard training course being delivered over a 2-day period and based on a regional approach, but the real question arises as to how understanding can be measured and validated to ensure that all classified teams have enough personnel that are trained and are truly competent in its use.

7.2.2   An outcome of the international USAR response review to the Haitian Earthquake in 2010 resulted in the concept of establishing a dedicated USAR Coordination Cell (UCC). This was seen as a significant development to improve the coordination of large numbers of USAR teams operating together. The UCC is designed to be a scalable coordination cell, its size reflecting the number of teams operating in its area of responsibility. To achieve the appropriate staffing levels for the UCC, the Guidelines state that deployed USAR teams contribute a specified number of personnel and equipment to this function. Given this unique situation, it is imperative that any nominated staff are knowledgeable and experienced in all aspects of the ICMS, i.e. data collection and back office administration to ensure that information/data is able to be translated into useable intelligence and ultimately plans that can be approved by the OSOCC and used to task teams. At this point in time there is a potential risk that teams could nominate personnel without the required level knowledge and skills, and this may result in a substandard level of integration required for the effective operation of a UCC, and with subsequent consequences for successful coordination activities.

7.2.3   General comments made relating to the introduction of the ICMS:

- It is seen by some teams as being a top down driven information management system, which is contrary to the INSARAG philosophy of avoiding being prescriptive in relation to operational outcomes. It is quite clear that one of the strengths of the Guidelines is that they accommodate agency specific SOPs, techniques and equipment, with the focus on safely achieving operational outcomes. However, the introduction of a mandatory IM system for all INSARAG teams (as well as those aspiring to achieve INSARAG classified status) is counter intuitive to this philosophy. It has even been suggested that INSARAG should define the reporting requirements and the format in which it is required and allow teams to achieve this by whatever means and systems they deem as appropriate. While this may be an over simplistic approach to this issue, it may warrant further discussion. Counter point to this would be the use of the VO as a common information management system, it is recognised that a single, universal platform, provides outputs in a standardised and useable form.

- Similar to the introduction of Kobo, the number of different forms that needs to be used within the system needs to be rationalised to make reporting simpler.

- There is duplication of effort for teams uploading information onto the VOSOCC and onto the ICMS platform, so there is a need to ensure the ICMS is integrated into the VOSOCC as there are marked differences between the two systems. We are aware that this issue was discussed through a telecon with Thomas Peter during a joint TWG and IMWG teleconference, where consideration was given to the ability to simplify the data requirement submitted by teams on the VO, due the level of operational specific data that would be maintained by ICMS moving forward. It is suggested that this point is followed up by the Secretariat to clarify the situation going forward.

- A real advantage of the ICMS is the ability to share information and data. The dashboard can be shared via a web link to other stakeholders and in the case of an emergency agreements are in place with ESRI that allows access to other types of response teams and organisations. In addition, it can be expanded to integrate with other systems including Quick Capture (ASR1), Drone mapping and 3D image mapping.

- Having the IMWG available to set up the ICMS structure, monitor its use and troubleshoot any arising issues is seen as absolutely key to its successful use during a live deployment, certainly for the short term.

- It is pleasing to note that the ICMS has been tested and trialled at numerous global events and continues to be so, with positive feedback on its ease of use

7.2.4　In summary, there is still a degree of scepticism regarding the use of the ICMS and its introduction (mainly related to the complexity of the information gathered, training methodology and structure and use in the UCC), however based on the interviews carried out there was a positive consensus for the ICMS, which is seen as having huge potential to support the coordination and tasking of USAR operations in the field.

7.2.5　In addition to the development of the ICMS, the impact of the Covid 19 pandemic has had a major impact on the INSARAG community and, specifically, the IEC/R process, with most IEC/Rs postponed until 2021. Given the significant disruption to international travel, the global community has responded by introducing available communications technologies, such as videoconferencing, as a substitute for face to face meetings. Additionally, some infectious disease experts have predicted the occurrence of similar pandemics in the future, so it is suggested that it would be beneficial for the INSARAG network to consider how immersive technologies, such 3-D, augmented and virtual reality technologies may be used to supplement future IEC/Rs and related training events.

Recommendations:

- **That consideration be given to how the UCC and IM function is structured for live deployments when the ICMS is used. It is suggested that for the short term highly experienced operators/teams are nominated and selected by the Secretariat to fulfil these roles.**

- **That a well-defined ICMS training and implementation strategy is developed that also encompasses a matrix tool to measure and check that the training has been understood.**

- **That there is assurance that information produced from the ICMS is complementary and aligned to the United Nations UNDAC and OSOCC systems supporting the affected Governments leading any disaster response, and future proofed in terms of advances in technology.**

- **That the IMWG explore how INSARAG may be able to utilise existing technologies such as 3-D, augmented and virtual reality for IEC/Rs and related training.**

8. CONCLUSIONS

There can be no doubt that structural collapses caused by earthquakes have resulted in 100,000s of deaths worldwide over the last few decades and while it is accepted that the majority of survivors are found and extricated relatively quickly, many are still subject to prolonged periods of entrapment before they can be rescued. Most of these events still take place in countries that are less able to cope with the demands placed on local/regional/national emergency services and therefore continue to request international assistance. Since 1991 many countries have supported disaster prone countries by deploying USAR teams to assist in the rescue and relief efforts. The specific impact and outcome of international USAR interventions is hard to predict or quantify, and in crude numerical terms lives saved are always few when compared to local efforts, however the technical expertise provided enables survivors to be located and in situations where the local teams may not have the technical expertise or capacity to do so. In light of the above, there is no doubt that international USAR teams provide a value-added service and therefore Guidelines, minimum standards and an international peer review process are absolutely crucial to ensuring that this service delivery is the best possible.

The review has highlighted many strengths and also areas that need to be considered for improvement (sections 8.1 and 8.2), and also lists **21** recommendations that should be considered in terms of short-term wins and longer-term goals if accepted. Undoubtedly further work will need to be commissioned in order to fully assess their viability and impacts, with consideration for the development of an appropriate road map to manage any changes and to ensure appropriate consultation and discussion at all levels of the INSARAG community.

8.1   IEC/R Process - Strengths

8.1.1   The IEC/R process is highly **inclusive** and fully endorsed by the United Nations through General Assembly Resolution 57/150, and organisations, which currently has 56 global teams successfully undertaking the classification process.

8.1.2   Through the INSARAG governance structure the IEC/R process is fully **owned by the Network member states and organisations**.

8.1.3   Individuals and teams within the network are extremely supportive and work within a spirit of **mutual cooperation** towards each other, to improve standard operational procedures and working practices.

8.1.4   It is internationally recognised as a **strong reference brand** and clearly adds value to all stakeholders.

8.1.5   Its basis is the **assurance** that minimum standards for international deployments are met whilst leaving the responsibility for technical capability and operational procedures with the member states or organisations managing the team.

8.1.6   The process contributes to the **continuous improvement** of international USAR teams through an integrated approach to mentorship, peer review, international exercising, provision of capacity building opportunities and sharing of documentation/information/best practices.

8.1.7   Technical competence is non-prescriptive and remains the responsibility of the relevant organisations, with the IEC/R process designed to be **supportive and non-critical** of different working methods or equipment used to achieve the minimum standards.

8.1.8   The IEC/R process engenders **participation from all stakeholders**. Dialogue is **inclusive** and at all stages is **open and supportive** with a focus on achieving successful outcomes.

8.1.9   The process is **rigorous** with a detailed checklist used to ensure that minimum standards have been met. It measures a USAR team's ability to operate in an international disaster environment, and is outcome focused providing **every opportunity** for teams undertaking an IEC/R to meet the minimum standards. Teams not meeting the required standards are offered the support of the INSARAG network to develop an implementation plan in order to comply with all requirements at a later stage.

8.1.10 INSARAG has continually adapted the process to ensure that it **evolves** and remains relevant and accessible regardless of culture. The process is **internationally recognised** in its primary aim to save more lives during disasters. In addition, **evaluation** of the process and ongoing developments are discussed and developed at different meetings and working groups.

8.1.11 Establishment of a process to verify operational standards is seen as an example of how independent peer review can increase response preparedness and operational capability which is now a **proven concept** and a **benchmark** for international humanitarian response which has been utilised by other international organisations and actors. The World Health Organisation (WHO) worked closely with INSARAG and adopted several of the ideas in establishing their Emergency Medical Teams (EMT) initiative and both networks have been engaged very closely in meetings and training exercises to further strengthen interoperability.

8.1.12 The IER process is **flexible** in its approach whereby agreement can be reached to pre green certain elements of the checklist on production of sufficient evidence. Resources can then be potentially reduced thus providing efficiency savings with no diminution of the standards.

8.1.13 Teams that have successfully undertaken the process are **duty bound** to abide by the INSARAG methodology and standards, thus improving coordination and cohesion.

8.1.14 The process ultimately provides the Government of an affected country with a **predictable** database of independently classified INSARAG Light, Medium or Heavy USAR Teams that will comply with the methodology and minimum standards prescribed by the INSARAG Guidelines.

8.1.15 The **diversity** of the INSARAG community is a significant benefit to the IEC/R process and provides a rich source of new ideas and initiatives to mentors, classifiers and team members.

8.2 IEC/R Process – Areas for improvement

Just as there are many strengths, there are also considered to be areas of improvement that can be introduced to ensure that the process continues to be a quality mark providing assurance of an increasing number of teams and ultimately professional value-adding resources to disaster-affected countries. The following are the key improvement areas for the Secretariat to consider:

8.2.1 There exists significant variance in the performance of classifiers. The current system of selecting classifiers based solely on their membership of a classified team and being nominated by their respective Focal Point does not always result in the best outcomes. Greater rigor needs to be applied to the selection of classifiers to ensure they have the expertise, currency and personal attributes to fulfil the requirements of the role. While it is acknowledged that this may be difficult to control, it is suggested that all potential classifiers be provided with training that addresses the functional area that they are expected to classify against as well as a general induction program. Additionally, potential classifiers must undertake the role of 'classifier in training' prior to any appointment, and subject to endorsement by the Classification Team Leader. A mandatory report providing feedback on the performance of classifiers and classifiers in training should be provided by the Classification Team Leader at the end of each IEC/R.

8.2.2 Classification Team Leaders, Mentors and INSARAG Secretariat Representatives play a critical role in IEC/Rs particularly in challenging and contentious situations. These positions should be selected on the basis they have attended the "IEC/R Training Course for Team Leaders, Mentors and INSARAG Secretariat Representatives."

8.2.3 The use of colour codes for the IEC/R checklist is not seen as value adding to the IEC/R checklist. The use of colour encourages competition between teams based on the number of greens a team achieves, which is contrary to the intent of the Guidelines and IEC/R process. While this intent has been explained at most IEC/Rs, it is human nature to make such comparisons and thus unavoidable. Additionally, the variance in subjective interpretations and inconsistency of classifiers further compounds this issue.

8.2.4   The current classification documents (INSARAG Guidelines Volume II Manual C, the checklist and report templates) are of an extremely good standard and outline the process that teams need to undertake in order to gain classified status. In general, the 2020 versions provide clear reference points however there are considered to be a few gaps where improvements can be made and specifically:

- To better define the issue of pre greening and give more guidance on how and when it can be applied.
- To give more guidance to exercise organisers in order to support the development of the 36-hour exercise.
- To update the report template to better record best practices in both technical competence regarding the team being classified and the process from an IEC/R team perspective.
- To the introduction of a code of conduct/practice to be used by the Classification team. From the briefing to be completed by the Classifier TL to his/her team to the details of the types of intervention allowed by classifiers during the process.

8.2.5   The collation and sharing of best practices from the IEC/R process is seen as a significant area that should be fairly straight forward to achieve and result in considerable improvements for all stakeholders. A webpage currently exists in the technical reference library of INSARAG.ORG for IEC/R after action reviews (AAR) but is currently empty.

8.2.6   Enhancing the management of the classifiers is imperative for the system and ensuring that the numbers and competencies of the classifiers reflects the requirements of Guidelines or is adjusted to meet the pre greening resources for an IER process. It is acknowledged that this can be a difficult task at the best of times so working closely with the regional chairs and Working groups could ensure that nominated and selected classifiers have the necessary experience and competence.

8.2.7   As the level of demand grows for Light, Medium and Heavy IEC/Rs we need to ensure that current capacity is sufficient and to ensure that countries and organisations will be prepared to continue to provide increasing numbers of staff to facilitate the increasing numbers of processes. It has been stated[18] that up to 15 IEC/Rs per annum are the maximum that can be managed by the Secretariat, so options and solutions need to be explored.

8.2.8   There is a desire to improve the technical standards of the IER process with general feedback suggesting that a new checklist will 'raise the bar' and validate teams who have strived to improve their procedures and equipment, since their last IEC/R.

8.2.9   While diversity is seen as one of the key strengths of the INSARAG community, it is evident by the authors of this report that there is a distinct gender imbalance not only in the IEC/R classifier/mentor cadre but throughout the INSARAG community. This was obvious given the limited number of females available to provide comment and feedback during the

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[18] Standards-setting and its implementation through the classification system for international urban search and rescue teams Yosuke Okita, MA, Rajib Shaw, PhD. Paper submitted to the Journal of Emergency Management Vol. 18, No. 3, May/June 2020

consultation phase of the IEC/R review, which in turn reflects the lack of female representation within the broader INSARAG Community. It is argued that increasing female involvement at all levels of the INSARAG network will qualitatively improve all aspects the INSARAG network. Increasing female representation should be the responsibility of the entire INSARAG network, at the personal, team, regional and international level. Promoting gender balance should also be articulated in all strategic INSARAG documents and be included in regional plans.

Recommendation:

As a matter of priority, the INSARAG community should develop and promote strategies designed to increase the level of female involvement at all levels, with a specific focus on female leadership and classifier roles. Such an initiative needs to be part of all INSARAG strategic documentation, including regional plans.

9. RECOMMENDATIONS

The following is a list of recommendations derived from the body of the report for consideration by the INSARAG Secretariat and wider network. Although subjective, they have been categorised into Policy, People and Process, a number of which are interrelated and prioritised in terms of the overall impact they would achieve.

Table 4 Main Categorised Recommendations

POLICY	
Pol1.	**Use of information management tools and technologies** That a well-defined ICMS training and implementation strategy is developed that also encompasses a matrix tool to measure and check that the training has been implemented and understood.
Pol2.	**Use of information management tools and technologies** That consideration be given to how the UCC and IM function is structured for live deployments when the ICMS is used. It is suggested that for the short term highly experienced operators/teams are nominated and selected by the Secretariat to fulfil these roles, until the system has been fully embedded.
Pol3.	**Use of information management tools and technologies** That there is assurance that information produced from the ICMS are complementary and aligned to the United Nations UNDAC and OSOCC systems supporting the affected Governments leading any disaster response, and future proofed in terms of advances in technology.
Pol4.	**Quality standards** Following consultation with the Team Leaders Group, a policy decision is taken at the ISG on whether teams should be assessed against the same standards achieved on an IEC or whether they should be assessed against an enhanced recertification process.

Pol5.	**IEC/R checklist colour coding**
	That the INSARAG network considers the pros and cons of the colour coding system on the IEC/R checklist in order to make a judgement on its future use.
Pol6.	**Flexible response**
	That work is commissioned to explore the flexible response concept for classified USAR teams, including the impact on the future versions of the Guidelines and IEC/R checklist.
Pol7.	**Engagement strategy**
	That INSARAG consider the development of a comprehensive three-tiered engagement strategy specifically targeting key partners and donors by utilising a multi-faceted approach to keep stakeholders and partners informed and to receive feedback. Consideration should also be given by the Secretariat to engage an intern with skills in marketing and communication to develop strategies, templates and guidance notes to achieve the aforementioned.
Pol8.	**Search dogs and technical search**
	That the issue of having mandatory canine search capabilities for heavy, or potentially medium, teams is subject to further review by the network. Regardless of the outcome of the outcome of this review, it is recommended that canine welfare issues be emphasised in future versions of the IEC/R checklists.
Pol9.	**Deployments:**
	That consideration be given to undertaking a review of future INSARAG accredited team deployments to ensure compliance with the Guidelines. In the event that a team has not deployed in accordance with its status, remedial action is taken against the team, as directed in the Guidelines. OCHA, UNDAC teams and Government agencies coordinating the response should be requested to provide feedback.
Pol10	**Gender imbalance within the INSARAG community**
	The INSARAG community should consider developing and promoting strategies designed to increase the level of female involvement at all levels, with a specific focus on female leadership and classifier roles. Such an initiative needs to be part of all INSARAG strategic documentation, including regional plans.

PEOPLE	
Peo1.	**Classifiers**
	That consideration is given to establishing a working group or tasking a current working group to recommend classification team members on an annual basis based on an analysis of nominated and available classifiers to ensure a more considered approach is adopted to classification team selection.
Peo2.	**Classifiers**
	That consideration be given to the introduction of an IEC/R code of practice section on *INSARAG.org* that can be accessed by classifiers and classifiers in training.

Peo3.	**Classifier training**
	That consideration be given to the introduction of a formalised training program for all classifiers.
Peo4.	**Classifiers**
	That the number of assigned classifiers should reflect the requirements of the Guidelines with a reserve classifier identified to fill in due to late withdrawals. Any deviation from these numbers should be avoided at all costs.
Peo5.	**Mentor training**
	That the role and approach of the Mentor during an IEC/R is reclarified at the next IEC/R Team leaders and Mentors course, to ensure complete understanding of what is expected.

	PROCESS
Pro1.	**Experiential learning-capturing and sharing of best practices**
	That the current IEC/R reporting system is reviewed to ensure that areas of considered best practice can be formally captured in a standardised format.
Pro2.	**Sharing of IEC/R reports**
	That IEC/R reports are analysed on a regular basis with trends in any areas of technical weakness and best practice identified and communicated to the Team Leaders meeting and IEC/R classifiers cadre. Furthermore, a platform should be explored where Team's and their Mentors can be invited to engage in a virtual learning setting.
Pro3.	**Pre-greening for IERs**
	That consideration be given to expanding the current pre-greening process to include a more comprehensive approach to the gathering of evidence for IERs, thus streamlining the current system and making it more efficient.
Pro4.	**IEC/R exercises**
	That consideration is given to establishing and tasking a new or existing Working Group with the development of a standardised suite of exercise planning documents that are made available on INSARAG.org. A team must show evidence that they have followed the guidance in this regard for their exercise.
Pro5.	**IEC/R checklist**
	That a more advanced and less transactional IER checklist should be developed to systematically measure effectiveness and quality of technical capabilities to allow teams undertaking their first, second or third IER to demonstrate a higher level of "maturity" and professionalism. (Dependent upon acceptance of recommendation Policy 4)
Pro6	**Use of technology**
	That the IMWG explore how INSARAG may be able to utilise existing technologies such as 3-D, augmented and virtual reality for IEC/Rs and related training.

Annex A: IEC/R Reports analysed

2015	Total 10: 5 x IEC, 5 x IER 6 x heavy, 4 x Medium				
Country	**Level**	**Type**	**Classifiers**	**Advisory notes**	**Best Practice**
Japan (JDR)	Heavy	IER	6		4
Saudi Arabia	Heavy	IEC	8		
New Zealand	Heavy	IEC	7		
Czech Republic (CZERT)	Heavy	IER	7		1
Denmark (DEMA)	Heavy	IER	7		3
Qatar	Heavy	IEC	7	6	3
France (PUI)	Medium	IER	5		
Armenia	Medium	IEC	9		
Estonia	Medium	IEC	7		
Belgium (BFAST)	Medium	IER	6		

2016	Total 10: 3 x IEC, 7 x IER 4 x heavy, 5 x Medium				
Country	**Level**	**Type**	**Classifiers**	**Advisory notes**	**Best Practice**
USA 1	Heavy	IER	7		
Malaysia	Heavy	IEC	8		
Russia EMERCOM	Heavy	IEC	6		4
Korea (KDRT)	Heavy	IER	5		
UK (UKISAR)	Heavy	IER	5		5
Spain (UME)	Medium	IER	6		
Spain (Ericam)	Medium	IER	6		
Austria (Saruv)	Medium	IER	5		
Russia Siberia	Medium	IEC	7	5	5
Lithuania (LERT)	Medium	IER	5		

2017	Total 13: 4 x IEC, 9 x IER 8 x heavy, 5 x Medium				
Country	**Level**	**Type**	**Classifiers**	**Advisory notes**	**Best Practice**
Algeria	Heavy	IEC	6	19	
Hungary (HUNOR)	Heavy	IER	6		
Turkey (AFAD2)	Heavy	IEC	5	23	2
Australia (Aus2)	Heavy	IER	7+2		5
Austria (ADRU)	Heavy	IER	5+1	16	
Germany (SEEBA)	Heavy	IER	6+2		
USA -2	Heavy	IER	8		
Turkey (AFAD)	Heavy	IER	6		
South Africa	Medium	IEC	7	10	2
Hungary (HUSZAR)	Medium	IER	6+1		
Germany (ISAR)	Medium	IER	5	9	4
Oman	Medium	IER	6+3		8
Chile	Medium	IEC	7		4

2018	Total 19: 4 x IEC, 5 x IER 7 x heavy, 2 x Medium				
Country	**Level**	**Type**	**Classifiers**	**Advisory notes**	**Best Practice**
Australia (Aus-1)	Heavy	IER	11+1	5	3
Belarus (BLR-USAR)	Heavy	IER	6+1		
Singapore	Heavy	IEC	7+3		
Finland	Heavy	IER	10		
Italy	Heavy	IEC	8	3	
Isreal	Heavy	IER			
Jordan	Heavy	IEC	9	13	
Turkey (AKUT)	Medium	IER	7	11	
Colombia	Medium	IEC	5+3		

2019	Total 11: 3x IEC, 8 x IER 8 x heavy, 3 x Medium					
Country	**Level**	**Type**	**Classifiers**	**Advisory notes**	**Best Practice**	
France (UIISC-1)	Heavy	IER	7			
Ukraine (MRC)	Heavy	IER	7+3			
Poland (POL-1)	Heavy	IER	9			
China	Heavy	IER	9+1			
China (CHN-2)	Heavy	IEC	10			
France (UIISC-7)	Heavy	IER	7+1			
Netherlands	Heavy	IER	8			
UAE	Heavy	IER	9		4	
Indonesia (INASAR)	Medium	IEC	10+1			
Pakistan	Medium	IEC	6			
Romania	Medium	IER	6+4			