

**INTERNATIONAL MOBILE SUBSCRIBER IDENTITY  
(I M S I) ASSIGNMENT AND MANAGEMENT  
GUIDELINES AND PROCEDURES**

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## 1.0 PURPOSE AND SCOPE

This document contains the guidelines and procedures for the assignment and use of International Mobile Subscriber Identities (IMSI) in the United States (U.S.) with consideration given to other North American Numbering Plan (NANP) countries. In certain circumstances, these guidelines may also apply to Territories of the United States.

- 1.1 The IMSI was created and formatted to provide the unique international identification of mobile terminals and mobile users and to enable these terminals and users to roam among public networks, which offer public mobility services.
- 1.2 These assignment guidelines pertain, in one section or another, to all segments of the IMSI. The IMSI Administrator (IMSI-A) participates in the management of all segments of the IMSI, but directly administers only the Home Network Identity (HNI) segment. HNIs are assignable to operators of public networks offering public mobility services with international roaming capabilities. The HNI uniquely identifies the home network of a public mobility service subscriber and contains the Mobile Country Code (MCC) and the Mobile Network Code (MNC). The remaining segment of the IMSI, the Mobile Station Identification Number (MSIN), is directly administered by the network operator to which the HNI is assigned.
- 1.3 These guidelines were developed by the consensus of representatives of entities within the telecommunications sector of the United States. This consensus originally was achieved during meetings of the IMSI Management Forum (IMF), the open industry forum initially chartered to manage and oversee the administration of IMSIs. Since 2001, the IMSI Oversight Council (IOC), a committee of the Alliance for Telecommunications Industry Solutions (ATIS), is responsible for this oversight.
- 1.4 These guidelines apply throughout the United States, excluding those United States Territories assigned their own unique MCCs, and do not supersede the regulations, procedures or requirements of the FCC or any other appropriate legal or regulatory authority.
- 1.5 These guidelines are based on the content of International Telecommunications Union – Telecommunications’ (ITU-T) Recommendation E.212, *The International Identification Plan For Public Networks and Subscriptions*. This Recommendation was revised in 2016. The content of this document is in conformance with that iteration of the Recommendation.

## 2.0 REFERENCES

- 2.1 ITU-T Recommendation E.212, *The International Identification Plan For Public Networks and Subscriptions*.

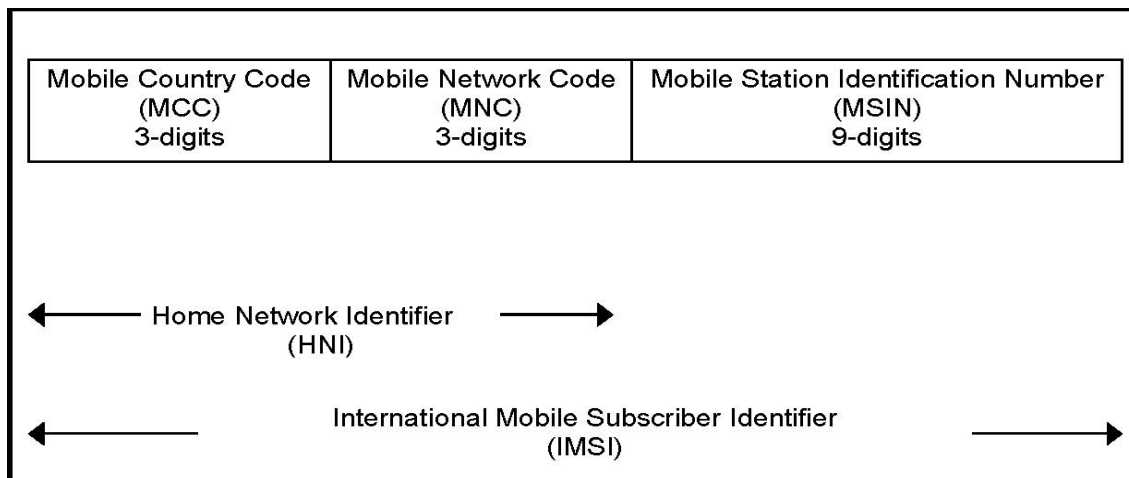
### 3.0 IMSI FORMAT, FUNCTION, AND MANAGEMENT

- 3.1 The IMSI format and function are based on ITU-T Recommendation E.212. The addition of a definition for an HNI, not contained in the Recommendation, is necessary in a country, such as the United States, allocated multiple MCCs by the ITU.
- 3.2 Each IMSI uniquely identifies the mobile terminal/user, the home network of the mobile terminal/user, and the home country of the network and of the mobile terminal/user.
- 3.3 The IMSI enables mobile terminals/users to roam among public networks, domestically and internationally, by providing a uniform and unique home network and mobile terminal/user identification that is recognizable by all conforming public networks. When transmitted between visited and home networks, the IMSI enables the exchange of subscription and billing information for the visiting mobile station.

Specifically, the IMSI is used for:

- Determination of the mobile terminal's/user's home network,
- Mobile terminal/user identification when information about a specific mobile terminal/user is to be exchanged between visited and home networks,
- Mobile station identification on the radio control path for registering a mobile station in a visited wireless network,
- Mobile station identification for signaling on the radio control path,
- Identification of the mobile terminal/user to allow for charging and billing of visiting mobile terminals/users, and
- Subscription management, i.e., retrieving, providing, changing, and updating subscription data for a specific mobile terminal/user.

3.4 The format of the IMSI in the United States is:



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3.5 The IMSI format in the United States is a fixed 15-digit length -- the maximum allowable by ITU-T Recommendation E.212. Each IMSI contains an MCC, an MNC, and an MSIN. The MCC and MNC combine to form the US-defined HNI, which is the segment of the IMSI directly administered by the IMSI-A. MSINs are administered directly by the network operator to which the HNI is assigned.

3.6 The function of the MCC is to identify the domiciliary country of a mobile terminal/user. By analyzing the MCC, a visited network can determine the country from which the mobile terminal/user originated and in which its home network resides.

According to ITU-T Recommendation E.212, an MCC is three digits in length and is in the format NXX, where N equals any of the decimal digits 2-9, and X equals any of the decimal digits 0-9. MCCs are assigned by the ITU-T in response to formal requests from recognized national administrations of ITU-T-member countries -- in the United States, the Department of State. There are eight MCCs currently assigned to the United States (“310” through “316” and “330”) for networks in the United States, Puerto Rico, Guam, Northern Marianas and American Samoa.

3.7 The function of the MNC is to identify the home network, within the country associated with the MCC, of the visiting mobile terminal/user. The visited network uses the MCC-MNC combination to identify and query the home network of the visiting mobile terminal/user that is requesting service.

MNCs in the United States are three digits in length and in the format XXX, where X equals any of the decimal digits 0-9. The 3-digit maximum is necessary so that, when combined with the 3-digit MCC, the visited network need not analyze more than 6 digits to determine the home network of the visiting mobile terminal/user, another ITU-T Recommendation E.212 requirement. This format provides a mathematical potential of one thousand MNCs (000-999) for each MCC. Consequently, a mathematical potential of eight thousand public networks can be served by the eight MCCs allocated to the United States.

3.8 The function of the MSIN is to uniquely identify a mobile terminal/user within its home network.

MSINs in the United States are nine digits in length and in the format XXXXXXXXXX, where X equals any of the decimal digits 0-9. ITU-T Recommendation E.212 limits IMSI length to a fifteen-digit maximum. Since the United States’ IMSI format includes a six-digit HNI, a nine-digit MSIN is the maximum allowable. The nine-digit format provides one billion MSINs per MNC or network, if no other function than mobile terminal/user identification is embedded in the MSIN.

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- 3.9 The HNI contains the MCC followed by the MNC and is a fixed 6-digit length in the United States. The HNI is required in a country with multiple allocated MCCs because analysis of both the MCC and the MNC is required to uniquely identify the home network since MNCs will be duplicated within the multiple MCCs allocated to the country. The HNI is not specified in ITU-T Recommendation E.212. It has been created and defined in the United States to address the lack of MNC uniqueness inherent in a multiple MCC environment.
- 3.10 Test HNIs are available for use by the industry. The test HNIs are intended for use by industry entities to perform internal testing. These HNIs do not identify any particular network. Test HNIs are not for exclusive use by any industry entity and it should be expected that the same HNIs may be in use by other entities simultaneously.
- 3.11 All current HNI assignments (including test HNIs) are available at the IMSI-A web site [www.imsiadmin.com](http://www.imsiadmin.com).
- 3.12 The IMSI Oversight Council (IOC), a committee of the Alliance for Telecommunications Industry Solutions (ATIS), manages the IMSI resource in the United States and oversees the performance of the IMSI-A. The management of the resources includes such functions as Assignment Guidelines maintenance, ensuring the adequacy of the resource inventory, and ensuring the appropriate function and use of the resource. Annex B of these Guidelines contains the IOC Operating Procedures. This Annex is an integral part of these Guidelines.

## 4.0 ASSUMPTIONS AND CONSTRAINTS

These guidelines are based on the following assumptions and constraints:

- 4.1 These guidelines and procedures should provide the greatest latitude to those providing public mobility services, while permitting the effective and efficient management of a finite resource.
- 4.2 Although the quantity of IMSIs available within the eight MCCs currently allocated to the United States is substantial, the demand for HNIs may, at some time in the future, exceed the capacity of the eight MCCs initially assigned to the United States. Planning for MCC exhaust and obtaining additional MCC resources are discussed in Section 10.
- 4.3 The guidelines and procedures for IMSI assignment in the United States, as set forth in this document, remain in effect until there is either industry consensus or regulatory policy direction to change them.
- 4.4 These guidelines do not describe the method by which IMSIs are transmitted across and processed by public networks. Network interworking arrangements are contained in other standards, documents, or business agreements.

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- 4.5 There are authorized HNI application and code holder fees. Each application must have an accompanying HNI application fee payment or the application will be returned. The HNI application fee funds the IMSI Administration function. Additionally, each HNI assignee will be separately assessed an annual HNI code holder fee. The code holder fees will be invoiced on a calendar year basis (January 1<sup>st</sup> – December 31<sup>st</sup>). Any proposed changes to the application or code holder fees should be submitted to the IOC at least 30 days in advance of the requested approval date.



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## 5.0 ASSIGNMENT PRINCIPLES

The assignment principles defined below allow public network operators the greatest possible latitude in providing public mobility service and the users of these services the widest possible roaming capabilities.

- 5.1 HNIs are to be assigned and used only by public networks offering public mobility services (Section 1.2).
- 5.2 Upon application, the IMSI-A will assign one HNI for each valid network operator. Nothing shall preclude a network operator, however, from aggregating multiple or merged networks/licenses within a single HNI. An application for a subsequent HNI may be submitted to the IMSI-A should an assignee exhaust the number of IMSIs within the assigned HNI, or require an additional HNI for a unique application, service or technology.
- 5.3 The 6-digit HNI, as part of the 15-digit IMSI, is to be assigned so as to uniquely identify the home network of the terminal/user.
- 5.4 MSINs are assigned by network operators to their subscribed mobile terminals/users. An IMSI is unique to a single mobile terminal/user, but a mobile terminal/user may have multiple IMSIs.
- 5.5 IMSIs and HNIs shall be assigned to permit the most effective and efficient use of a finite resource in order to maximize the existing allocated resource inventory and to defer, as long as practical, the need to request additional MCC resources.
- 5.6 IMSIs are a public resource. The assignment of any portion of an IMSI (i.e., HNI, MSIN) does not imply ownership of the resource by either the entity to which it is assigned or by the entity performing the administrative function.
- 5.7 Should an assignee transfer control of the CMRS license or a portion of its serving area under an existing license, then the use of the assigned HNI is transferable to the new license owner.
- 5.8 The IMSI-A will:
  - Assign HNIs in a fair, timely, and impartial manner to any applicant that meets the criteria for assignment (Section 6).
  - Assign HNIs on a first come, first served basis from the available pool of unassigned HNIs.
  - Make all assignments based on the procedures in these guidelines (Section 8).
  - Treat sensitive information received from applicants as proprietary and confidential, and not to be shared with those outside the IOC and IMSI-A.
- 5.9 Information that is requested of applicants in support of an HNI application shall be uniform and kept to a minimum.

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- 5.10 Assigned HNIs should be deployed as soon as possible, but no later than twelve months after assignment. If the assignee can demonstrate that an assigned HNI has not been deployed solely due to delays beyond its control, IMSI-A can extend the time period for up to 90 days. At the discretion of the IOC, one additional 90-day extension may be granted.
  - 5.11 An entity that is denied an HNI assignment or extension under these guidelines has the right to appeal that decision (Section 12).
  - 5.12 These guidelines have no effect on HNI assignments made prior to the guidelines' approval. Use of all assigned resources shall be consistent with these guidelines.
  - 5.13 A working HNI returned to the IMSI-A for reassignment will remain dormant for a period of not less than 180 days from the date of return to the HNI pool before reassignment. An HNI recovered in accordance with reclamation procedures will not be reassigned until confirmation is received from the IOC. If an HNI is returned and was never working in the current assignee's network, the HNI is immediately reassignable (i.e., no dormancy is required).
  - 5.14 There is an administrative fee associated with an application for an HNI.
  - 5.15 As required, applicants for HNIs must comply with all applicable local, state, and federal regulations relative to the provisioning of public mobility service.

## **6.0 CRITERIA FOR HNI ASSIGNMENT**

The assignment criteria in the following paragraphs should be considered by a potential HNI applicant before submitting an HNI application and will be used by the IMSI-A in reviewing and processing an HNI application:

- 6.1 The HNI applicant must be, and certify that it is, a public network operator (commercial or government), or an authorized agent operating on behalf of a public network operator as a Mobile Virtual Network Operator (MVNO), offering mobility services in the United States with a need to roam onto/from commercial networks, or that it is a provider of a service profile management system (e.g., Home Location Register [HLR], Home Authentication, Authorization, and Accounting [AAA], or Home Subscriber System [HSS]) based in the United States for end user devices that can access public networks in the United States.
- 6.2 The applicant/assignee of an HNI must have and provide evidence of authorization, if required, from the appropriate federal, state or local regulatory authorities to operate in the area in which it intends to provide mobility services. MVNO applicants must provide a copy of the executed contract with a public network operator.
- 6.3 Applicants offering commercial services must offer non-discriminatory access of this resource to users. That is, such applicants must offer the availability of services to any end-user customer requesting the service.

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- 6.4 The applicant must certify that the HNI will be used for mobile applications. That is, the applicant must certify that the service provided will have at least two of the following characteristics:
- Access to a service profile<sup>1</sup> management system – Service profile management is the ability to access and manipulate a service profile. The user, the subscriber or the provider can perform service profile management.
  - Terminal Mobility – The ability of a terminal to access telecommunication services from different locations and while in motion, and the capability of the network to identify and locate that terminal.
  - Personal Mobility – The ability of a user to access telecommunications services at any terminal on the basis of a personal identifier, and the capability of the network to provide those services according to the user’s profile. Personal mobility involves the network capability to locate the terminal associated with the user for the purpose of routing.
- 6.5 At least one radio interface protocol used by the network equipment or end user devices of the Applicant must be from the following list of protocols known to require IMSI for identification and signaling:
- GSM-based protocols including General Packet Radio Service (GPRS), Enhanced Data for GSM Evolution (EDGE), Wideband CDMA (W-CDMA), and High Speed Packet Access (HSPA).
  - CDMA2000 protocols including CDMA2000 1X (a 3GPP2 cellular technology providing voice and data services) and High Rate Packet Data (HRPD [EVDO]).
  - Long Term Evolution (LTE) protocols including LTE Advanced.
- 6.6 An HNI will only be assigned by the IMSI-A upon receipt and approval of a completed *Form A – Home Network Identity (HNI) Application*. The payment of the application fee must accompany the application or the application will be returned. An application for additional HNI assignments will only be processed if the annual code holder fees of the applicant/assignee are paid to date (see the IOC Operating Procedures, Annex B, Section B-5 for further detail concerning fees).

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<sup>1</sup> Service profile—a record containing all the information related to a user in order to provide that user with service (*i.e.*, a database).

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## 7.0 RESPONSIBILITIES OF HNI APPLICANTS AND ASSIGNEES

Entities requesting HNI assignments and entities already assigned one or more HNIs shall comply with the following:

- 7.1 HNI applicants and assignees must meet all conditions specified in these guidelines. Official copies of the guidelines may be obtained from the ATIS IOC web site.<sup>2</sup>
- 7.2 Applicants must apply by completing Form A - *Home Network Identity (HNI) Application* online at [IMSIadmin.com/forms](https://www.atis.org/committees-forums/ioc/forms).
- 7.3 HNI assignees shall:
  - 7.3.1 Assign and efficiently manage the MSINs (last nine digits of the IMSI) associated with the assigned HNI. Maintain up-to-date and accurate assignment records that match MSINs to mobile terminals/users. These records may be required for audit purposes (Annex A).
  - 7.3.2 Inform the IMSI-A of changes in the information associated with an HNI assignment by using Form D – *Request for Change in Home Network Identity (HNI) Assignment Information*. Changes may occur because of the transfer of an HNI, through merger or acquisition, to a different network (Section 5.7). The initial assignee of the HNI involved in a transfer occurring through merger, acquisition or other means must immediately inform the IMSI-A when such a change becomes effective. Timely submission of change information enables the IMSI-A to maintain accurate HNI assignment records.
  - 7.3.3 Participate in the IMSI audit process, when requested (Annex A).
  - 7.3.4 Deploy any HNI, assigned either directly by the IMSI-A or obtained through merger or acquisition, within 12 months (Section 5.10). Inform the IMSI-A of HNI deployment by submitting Form C – *Home Network Identity (HNI) Deployment*.
  - 7.3.5 Apply to the IMSI-A for an extension (Section 5.10) if the deployment requirement cannot be met and the HNI is still required.
  - 7.3.6 Return to the IMSI-A, using Form F – *Home Network Identity (HNI) Assignment Return*:
    - Any HNI no longer needed for the provision of public mobility services,
    - Any HNI not deployed within the time period specified, including extensions (Section 5.10), or
    - Any HNI not used in conformance with these assignment guidelines, including failure to submit proper application and code holder fees.

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<sup>2</sup> The ATIS IOC web site is maintained at <https://www.atis.org/committees-forums/ioc/>.

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## 8.0 RESPONSIBILITIES OF THE IMSI-A

The role of the IMSI-A is to manage the entire IMSI resource and to directly administer the HNI segment of the IMSI. In this context, the IMSI-A shall:

- 8.1 Provide to the industry general and specific information on the structure and proper use and management of IMSIs.
- 8.2 Provide copies of these guidelines and forms to HNI applicants and assignees, and assist them in completing the required forms.
- 8.3 Review and process HNI applications as follows:
  - 8.3.1 Review the application to determine if all requested information is provided and credible. If not, return the application to the applicant requesting that any deficiency be corrected.
  - 8.3.2 Inform applicants of the status of their requests using Form B – *Home Network Identity (HNI) Application Disposition*. There are three possible dispositions: approved, denied, or additional information required. Notify the applicant in writing of the disposition within ten working days from receipt of Form A. The response will include:
    - If assigned, the specific HNI(s) assigned,
    - If denied, the reasons for denial and instructions on how and where to appeal the decision, or
    - If additional information is required, the specific information required.
- 8.4 Use the following HNI assignment procedures:
  - 8.4.1 The IMSI-A shall generally assign HNIs in numerical sequence by MCC and by MNC within each MCC. The next MCC in numerical sequence should not be used until all MNCs in the preceding MCC have been assigned.
  - 8.4.2 There may be technical considerations or limitations on the part of the applicant that require a specific assignment or preclude them being able to use the next consecutive MNC assignment. These exceptions are set forth below and in the Addenda (if any) to this document.

*Accommodation for backward compatibility for existing public networks offering public mobility services only identified by 10-digit mobile identification numbers (MINs):* The following HNIs are not available for assignment in order to support inter-networking with wireless network licensees requiring backward compatibility for existing public networks offering public mobility services only identified by 10-digit MINs:

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310–000 through 310–009

- 8.4.3 HNI applicants eligible for multiple MNCs may request that such MNCs be assigned in the next available block of numerically sequential codes (excepting those MNCs reserved or unavailable for assignment, pursuant to Section 8.4.2 or any subsequent addenda to these guidelines). In such cases, Form A should indicate they are requesting multiple assignments in a sequential block.
- 8.4.4 When reassigning an HNI that has been returned or reclaimed, the IMSI-A will ensure that the HNI has remained dormant for the required period (Section 5.13) and confirm with the IOC that the HNI is no longer in use for reclaimed MNCs (per Section 9.2).
- 8.4.5
- 8.5 Maintain accurate and current HNI application and assignment records. Update the records as required to respond to requests for changes in assignment information reported by HNI assignees (Section 7.3.2). Respond to these requests within ten working days using Form E – *Confirmation of Change of Home Network Identity (HNI) Assignment Information*.
- 8.6 Publish, at least monthly, via the agreed medium, a list of assigned HNIs. The list will include the HNI number and the HNI assignee company name. Track the number of IMSIs assigned and the assignment rate and report this data regularly to the ATIS IOC.
- 8.7 Investigate any HNI that has not been deployed within the required time frame, and issue extensions if appropriate (Section 5.10). The IMSI-A will forward a letter to each HNI assignee that has not reported the implementation of an assigned HNI(s) in conformance with Section 5.10, i.e., at the one-year initial implementation date and at the end of an implementation extension(s). The letter will request the implementation status of the assigned HNI(s) and state that if implementation confirmation, or an extension request, is not received within 30 days, the HNI(s) is subject to reclamation/reassignment. Notify the IOC if an assignee fails to deploy an assigned HNI within the allotted extension(s).
- 8.8 Reclaim assigned HNIs (Section 9), as needed.
- 8.9 At the determination of the IOC, the IMSI-A may be requested to perform assignment audits. This requirement is not considered to be the ongoing responsibility of the IMSI-A unless agreed to by the IOC. The IMSI-A may recommend to the IOC that a specific audit be performed. See Annex A for the future and potential auditing process. This Annex is not an integral part of these guidelines. If/when the IOC directs the conduct of an audit, a method of remuneration for the IMSI-A's time and effort will be jointly determined by the IOC and the IMSI-A.
- 8.10 Inform the United States telecommunications industry, via the agreed method, of any revisions to these guidelines (Section 11).

## 9.0 HNI RETURN AND RECLAMATION PROCEDURES

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9.1 Assignee responsibilities:

- Assignees will return HNIs that are no longer required, not deployed, or not used in conformance with these assignment guidelines (Sections 5.10, 7.3.5 - 7.3.6).
- Assignees will cooperate with the IMSI-A in carrying out its reclamation and auditing responsibilities.

9.2 IMSI-A responsibilities:

- The IMSI-A will contact any HNI assignee identified as not having returned to the IMSI-A, for reassignment, any HNI no longer required, not deployed, or not used in conformance with these assignment guidelines (Sections 5.10, 7.3.4 - 7.3.6), including non-payment of the annual HNI code holder fee(s).
- The IMSI-A will first seek clarification from the assignee regarding any alleged non-use or misuse. If the assignee provides an explanation satisfactory to the IMSI-A, and in conformance with these assignment guidelines, the HNI will remain assigned. If no satisfactory explanation is provided, the IMSI-A will request a letter from the assignee returning the assigned HNI for reassignment. If a direct contact cannot be made with the assignee to affect the above process, the IMSI-A will look up the license associated with the IMSI and attempt to contact the current licensee. If that contact does not resolve the non-conformance, a registered letter will be sent to the assignee address of record requesting that they contact the IMSI-A within thirty days regarding the alleged HNI non-use or misuse.
- If the letter is returned as non-delivered or the assignee refuses to return the MNC or to comply with the guidelines, the IMSI-A will advise the IOC. Per Section 9.3, the IOC will direct the IMSI-A as to whether the HNI will be reclaimed and made available for reassignment following the required dormant period (Section 5.13).

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- 9.3 If the IMSI-A refers to the IOC an unresolved HNI assignment as described in Section 9.2, the IOC will:
- Accept all referrals of alleged non-use or misuse of HNIs from the IMSI-A or any other entity, and
  - Investigate the referral, and
  - Review the referral in the context of these assignment guidelines, and
  - Attempt to resolve the referral, and perform one of the following:
    - Direct the IMSI-A regarding the action, if any, to be taken (if the action to be taken is not in conformance with the existing guidelines, the IOC will initiate the guidelines revision process [Section 11]), or
    - Refer the case to the appropriate regulatory body for resolution if the IOC cannot reach consensus on a resolution, or
    - Refer the case to the appropriate regulatory body if the HNI assignee will not comply with the consensus resolution developed by the IOC.

## **10.0 MCC RELIEF PLANNING**

- 10.1 When all the HNIs in all but two of the MCCs assigned to the United States have been assigned, or assignments are exceeding 10% of the resource per quarter, the IMSI-A will inform the IOC.
- 10.2 When the IMSI-A informs the IOC that the MCCs assigned to the United States are approaching exhaust, the IOC will:
- Conduct an audit of current IMSI assignments to ensure that efficient IMSI utilization is in effect, and, if not,
  - Recommend additional procedures to be initiated to effect more efficient IMSI utilization, or if efficient utilization is in effect,
  - Provide the requisite data to the United States Department of State and request that it obtain additional MCC resources from the ITU-T, if required.

Using data provided by the IOC, the United States Department of State will request additional MCC resources for the United States from the ITU-T and will inform IOC of the result. Currently, MCCs 317-329 are not allocated. Should additional MCCs be required by the United States, MCCs in this list of unallocated MCCs could be requested in order to continue with consecutive MCC allocations.



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## **11.0 MAINTENANCE OF GUIDELINES**

It may be necessary to modify the guidelines periodically to meet changing and unforeseen circumstances. The need for guidelines modification may be identified by the IMSI-A, any entity in the telecommunications sector or the IOC. When a need for modification is identified by an entity other than the IOC, the identifying entity will submit the modification issue to the IOC. The IOC will coordinate the modification process. Questions or concerns regarding the maintenance of the guidelines may be directed to the IMSI-A or IOC.

## **12.0 APPEALS PROCESS**

Disagreements may arise between the IMSI-A and HNI applicants or assignees in the context of the administration and management of HNIs and the application of these guidelines. In all cases, the IMSI-A and HNI applicants/assignees will make reasonable, good faith efforts to resolve such disagreements among themselves, consistent with the guidelines, prior to pursuing any appeal. Appeals may include, but are not limited to, one or more of the following options:

- HNI applicant/assignee will have the opportunity to resubmit the matter to the IMSI-A for reconsideration with or without additional input.
- Guidelines interpretation/clarification questions may be referred to IOC for resolution. Unless otherwise mutually agreed to by the parties, these questions will be submitted in a generic manner protecting the identity of the appellant.
- The applicant/assignee may pursue the disagreement with the appropriate governmental/regulatory body.

Reports on any resolution resulting from the above options, the content of which will be mutually agreed upon by the involved parties, will be kept on file by the IMSI-A and IOC. At minimum, the report will contain the final disposition of the appeal; e.g., whether or not an HNI was assigned.

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## 13.0 GLOSSARY

*Code Holder Fee* – Annual code holder fees assessed on HNI and IBN assignees will fund the functions necessary for the IOC to perform its responsibilities (e.g., administrative, web site).

*Conservation* – Consideration given to the efficient and effective use of a finite resource in order to minimize the cost and need to expand its availability while at the same time allowing the maximum flexibility in the introduction of new services, capabilities and features.

*Home Authentication, Authorization, and Accounting (AAA)* – A server(s) in the home network of the HNI assignee that provides authentication, authorization, and accounting service profile management functions.

*Home Location Register (HLR)* – The HLR is a central database that contains details of each mobile device subscriber that is authorized to use the core network; the HLR stores details of every SIM card issued by the network operator.

*Home Network Identifier (HNI)* – The HNI is the aggregate of the MCC and MNC and is uniquely required in countries with more than a single MCC. The existence of multiple MCCs in a country necessitates that both the MCC and MNC must be analyzed to determine the home network of a roaming terminal/user, hence the need for HNI functionality. The HNI is the resource for which these Assignment Guidelines and Procedures were developed and which the IMSI-A administers.

*HNI assignee* – The entity to which an HNI has been assigned for the provision of public mobility services. This enables international roaming capability.

*Home network* – The network to which a given mobile terminal/user is subscribed.

*Home Subscriber System (HSS)* – The HSS is a system that provides subscriber identification and authorization service profile management functions.

*International Mobile Subscriber Identity (IMSI)* – The IMSI is a string of decimal digits, up to a maximum length of 15 digits, which identifies a unique subscription. The IMSI consists of three fields: the mobile country code (MCC), the mobile network code (MNC), and the mobile subscription identification number (MSIN).

*International Roaming Capability* – The ability of a mobile terminal/user to originate and receive calls and other telecommunications services while outside their home country.

*Mobile Country Code (MCC)* – The first field of the IMSI that is 3 digits in length. An MCC either identifies a country or a group of Networks that share an MCC for international services.

*Mobile Network Code* – The second field of the IMSI that is 2 or 3 digits in length. The MNC, in combination with the MCC, uniquely identifies the home network of the mobile terminal or mobile user. In the U.S., the combination of the MCC and MNC is the HNI.

*Mobile Subscriber* – An entity or person that contracts to receive or pay for a public mobility service.

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*Mobile Subscriber Identification Number (MSIN)* – The third field of the IMSI that is a maximum of 9 digits. The MSIN within a given MCC+MNC (HNI) identifies a unique mobile terminal or mobile subscriber within a public network.

*Mobile Terminal* – Any portable, transportable, or handheld terminal supporting public mobility service.

*Mobile User* – A user that utilizes a subscription to access a public mobility service.

*Network Operator* – The entity responsible for the maintenance and operation of a public telecommunications network which supports public mobility services.

*Public Mobility Service* – A public telecommunications service that supports voice and/or data mobility for terminals or users by providing access to and from the public network via a home network and/or visited network(s).

*Public Network* – A wireless network that offers service to the general public or that is operated in the public interest.

*Visited Network* – The network providing service to a subscriber when the subscriber roams outside the home network.

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## **ANNEX A -- IMSI RESOURCE CONSERVATION AND ASSIGNMENT AUDITS**

A-1 At the determination of the ATIS IMSI Oversight Council (IOC), the IMSI Administrator (IMSI-A) may be requested to perform assignment audits. This requirement is not considered to be the ongoing responsibility of the IMSI-A unless agreed to by the IOC. The IMSI-A may recommend to the IOC that a specific audit be performed.

A-2 Assignment and management of United States' IMSI resources are undertaken with the following conservation objectives:

- To efficiently and effectively administer/manage a limited resource through code conservation, and
- To eliminate or delay the exhaust potential for the MCCs currently assigned to the United States.

The process to achieve these objectives should not impede the introduction of competitive services utilizing IMSI station identifiers.

A-3 The ITU-T will certainly require a compelling reason for the allocation of more than 7 billion MSINs and 7000 HNIs -- the number in the United States inventory based on the format described above -- to one country. To promote the efficient and effective use of numbering resources, audits of HNI assignments may be performed to ensure consistent compliance with these guidelines.

A-4 The IMSI-A will track and monitor IMSI assignments and assignment procedures to ensure that all segments of the IMSIs are being used in an efficient and effective manner. Ongoing administrative procedures that foster conservation shall include, but not be limited to, the following:

- An active reclamation program to reclaim unused or misused HNIs,
- Strict conformance with these guidelines by those assigning HNIs and MSINs,
- Appropriate and timely modifications to these guidelines to enhance text that may have allowed inefficient use of IMSIs and HNIs, and
- Periodic specific and random audits of assignments and assignment procedures.

A-5 The IMSI-A may conduct an audit of an HNI assignee's assignment records. The audit may be precipitated by a complaint from outside the IMSI-A's organization or by the IMSI-A. The purpose of an audit will be to verify the HNI assignee's compliance with the provisions set forth in these guidelines.

A-5.1 These audits will be conducted at the HNI assignee's premises or at a mutually agreed to location and at a mutually agreed to time.

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- A-5.2 The IMSI-A will not copy or remove the information from the premises nor will it disclose the information to those outside the IOC and IMSI-A.
- A-5.3 The IMSI-A will expect to review the following information to ensure conformance with these guidelines and the proper use of the IMSI resource:
- Verification of assignment for each working MSIN,
  - Date of assignment of each working MSIN,
  - Activation date of each working MSIN,
  - Indication of MSIN assignment to end users, and
  - Status and status date of each MSIN unavailable for assignment; i.e., MSINs assigned for testing, reserved, aging, pending and/or, suspended.
- A-6 Audit results should be used to identify and recommend to the appropriate industry forum specific corrective actions that may be necessary. Examples of specific corrective actions which may be proposed are as follows:
- Modifications to these assignment guidelines to reflect the specific circumstance revealed by the audit,
  - Additional training for HNI assignees concerning the assignment guidelines,
  - Return of assigned HNIs,
  - Requirements for supporting documentation of future HNI requests in non-compliant situations, or
  - Modifications to the process in which records are maintained or HNIs are assigned.
- A-7 Audit results with respect to HNI assignee information and/or recommended HNI assignee process modifications shall be treated on a proprietary and confidential basis.
- A-8 Failure to participate/cooperate in an audit shall result in the activation of HNI reclamation procedures (Section 9 of the *IMSI Assignment and Management Guidelines and Procedures*).

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## Addendum 1 -- Temporary Accommodation for GSM-Based and ANSI-41 CDMA-Based Wireless Networks

Currently GSM-based and ANSI-41 CDMA-based wireless public networks can handle only 2-digit MNCs. This limitation can be accommodated, until such time as GSM-based and ANSI-41 CDMA-based wireless public networks are modified to support 3-digit MNCs, through the following temporary assignment guideline:

Until the GSM-based and ANSI-41 CDMA-based industries, via a decision of ATIS IOC, indicate full readiness for support of 3-digit MNC:

- MNC codes in the format XX0, where X equals any of the decimal digits 0 through 9, are reserved for assignment to CMRS license holders choosing to deploy GSM-based or ANSI-41 CDMA-based technology. When a licensee meeting this requirement requests a code assignment and does not specify a 3-digit MNC, the next such code in numerical sequence will be assigned. Such codes from the next consecutive MCC should not be assigned until all such codes from the preceding MCC have been assigned.
- Notwithstanding the above, any licensee may explicitly request a 3-digit MNC. This can be assigned from any unassigned code in any block of 10 consecutive codes from which a 2-digit MNC has not already been assigned.

After the industry, via ATIS IOC, indicates full readiness for support of 3-digit MNC:

- 2-digit MNC codes will no longer be assigned to GSM-based or ANSI-41 CDMA-based wireless public networks. All assignments will be 3-digit MNC codes and can be made from blocks containing a previous 2-digit MNC code assignment.

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## **ANNEX B – IMSI Oversight Council (IOC) OPERATING PROCEDURES**

### **B-1 INTRODUCTION**

During the latter half of 1995, the U.S. wireless telecommunications industry developed assignment guidelines for International Mobile Subscriber Identities (IMSI) in the U.S. These guidelines were developed in an open industry forum jointly sponsored by the Cellular Telecommunications Industry Association (CTIA) and the Personal Communications Industry Association (PCIA).<sup>3</sup> The result of this development effort was the consensus-approved document titled *IMSI Assignment and Management Guidelines and Procedures* – to which these *Operating Procedures* are Annexed.

The *IMSI Assignment and Management Guidelines and Procedures* call for the formation of an “appropriate industry forum” tasked with various responsibilities associated with the management of the IMSI resource and oversight of IMSI administration. The forum that was formed by industry consensus in 2001 is the IMSI Oversight Council (IOC), a committee of the Alliance for Telecommunications Industry Solutions (ATIS). This document defines the procedures by which the IOC shall operate, including its scope, mission, responsibilities, participants, organization, operational procedures, and interworking.

In 2018, the need for IMSIs for use in the Citizens Broadband Radio Service (CBRS) Spectrum was identified. CBRS is licensed, but shared (i.e., not license for exclusive use) and thus may have a broad range of users (operators) and use cases (malls, enterprise, stadiums, apartment buildings, etc.). Because the spectrum is not exclusive use, spectrum users do not directly attain FCC licenses; instead, the users acquire base stations certified as compliant with the FCC rules (FCC Title 47, Code of Federal Regulations, Part 96). The base stations must then register with a Spectrum Access System (SAS), which verifies the base station is certified and operates in compliance within the FCC rules.

The IOC developed a process for allocating blocks of IMSIs (IMSI Block Numbers or IBNs) for the CBRS Spectrum users.

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<sup>3</sup> CTIA is now known as CTIA – The Wireless Association; PCIA is now known as PCIA – The Wireless Infrastructure Association.

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## **B-2 MISSION, SCOPE, AND RESPONSIBILITIES**

The IOC is an open industry forum serving the needs of the telecommunications industry regarding the management and administration of IMSIs and IBNs. It has the following scope and mission.

### **B-2.1 Mission**

The IOC is responsible for the management and oversight of the administration of IMSIs and IBNs in the United States.

### **B-2.2 Scope**

The IOC will maintain and ensure compliance with the *IMSI Assignment and Management Guidelines and Procedures* and the *International Mobile Subscriber Identity (IMSI) Assignment and Management Guidelines for Shared HNI For CBRS Range* documents to ensure that they meet the evolving needs of the U.S. telecommunications industry, oversee the performance of the IMSI Administrator (IMSI-A), and perform the specific responsibilities assigned to it by these Operating Procedures and the *IMSI Assignment and Management Guidelines and Procedures*.



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## **B-3 IOC MEMBERSHIP AND ORGANIZATION**

### **B-3.1 Membership and Participation**

The IOC is an open industry forum. Any organization, company, or group within the U.S. telecommunications industry that is materially affected by the management and administration of IMSI and IBN resources may become a member of the IOC. Membership in the IOC is not required for IMSI or IBN assignment or maintenance and non-members may attend meetings and participate or raise issues for consideration by the IOC membership. Participants, however, have an obligation to be prepared to discuss the issues/appeals, and to cooperate in moving issues/appeals forward efficiently. Non-member participants may not participate in consensus decisions or voting processes.

#### *B-3.1.1 Membership*

Membership in the IOC shall be initiated by an organization, company, or group through the submission of written correspondence to the IOC Secretariat. This correspondence shall include: (1) a statement that the applicant is materially affected by the management and administration of IMSI resources in the United States; (2) the organization, company or group's contact information; and (3) the contact information for the organization's, company's or group's Voting Participant.

#### *B-3.1.2 Voting Participants*

Each IOC Member shall identify a Voting Participant as that company/organization's primary contact for the IOC. IOC participants will bear their own time, travel, and living expenses. More than one representative or subject matter expert from each Member may attend IOC meetings but only the Voting Participant identified to the IOC Secretariat prior to the start of an IOC meeting may participate in consensus decisions or voting processes.

### **B-3.2 IOC Leadership**

The IOC shall be led by a Chair and Vice Chair, who shall each be elected by the IOC to serve a two-year term.

#### *B-3.2.1*

The leadership will be supported in their responsibilities by the IMSI-A. The responsibilities of the leadership include, but are not limited to:

- convening, preparing agendas for, and chairing all meetings of the IOC,
- conducting IOC meetings in a fair and impartial manner, so that the views of all participants will be heard and discussed, and
- determining when consensus is achieved on an issue/appeal under IOC discussion.

### **B-3.3 IMSI-A**

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The Alliance for Telecommunications Industry Solutions as IMSI-A will assign a staff member to ensure that the IOC functions effectively. The IMSI-A will attend all meetings and have primary responsibility for carrying out the directives of the IOC, including the day-to-day management of its activities under the direction of the IOC leadership. The IMSI-A will ensure that the IOC abides by these Operating Procedures and may facilitate IOC meetings in the absence of the leadership.

#### B-3.3.1

The administrative responsibilities of the IMSI-A include, but are not limited to:

- logistical arrangements for meetings,
- recording of participation at IOC meetings, and maintaining the IOC Member and Voting Participant lists,
- maintain all IOC records,
- maintain and update the IOC web site (on the ATIS host),
- bill and collect the annual HNI code holder fees (see Section 6 of the IMSI Assignment and Management Guidelines and Procedures),
- management and tracking of issues/appeals under consideration by the IOC,
- preparation and distribution of meeting notes and records in a timely manner,
- work closely with the IOC to identify problem areas and develop and implement appropriate action plans to address these concerns,
- provide periodic reports on IOC costs to determine appropriate funding for administrative support,
- represent and speak on behalf of the IOC at both national and international conferences, seminars and meetings as well as before government organizations and agencies at the direction of the IOC, and
- support the leadership and IOC function, as reasonably required.

### **B-3.4 Joint Responsibilities of the IOC Leadership and IMSI-A**

#### B-3.4.1

The following are joint responsibilities of the IOC leadership and the IMSI-A:

- attempting to ensure that there is an adequate representation of the various industry perspectives on issues/appeals before the IOC,
- providing technical regulatory support with regard to the issues/appeals before the IOC, and
- ensuring that the appropriate subject matter experts and/or documentation are available at IOC meetings for the proper and complete discussion of meeting agenda items.

### **B-3.5 IOC Organization**

#### B-3.5.1

The IOC may establish working groups to address and resolve specific issues. Each such working group should have one or more elected leaders (co-chairpersons), whose responsibility it will be to lead the working group toward the resolution of the assigned issue using a consensus process, and to report the working group's work status and conclusions to the IOC.

### B-3.5.2

The IOC may establish and maintain an advisory group of IOC Members to provide advice and input on IOC matters. Members of the advisory committee shall be selected by the IOC leadership, in consultation with the IMSI-A.

## B-4 IOC RESPONSIBILITIES

### B-4.1

The IOC's primary responsibilities include, but may not be limited to (not listed in any order of priority):

- in cooperation with the IMSI-A, educate the telecommunications industry, regulators and other interested parties regarding the structure, proper use and management of IMSIs through the operation of the IOC web site, the provision of the *IMSI Assignment and Management Guidelines and Procedures*, and through other means,
- accept and resolve IMSI-related issues referred to it by an affected telecommunications entity or the IMSI-A in a timely and responsible manner through the consensus process,
- accept and resolve all referred Home Network Identifier (HNI) and IMSI Block Number (IBN) assignment-related appeals in a timely and responsible manner and in accordance with the *IMSI Assignment and Management Guidelines and Procedures* and the *International Mobile Subscriber Identity (IMSI) Assignment and Management Guidelines For Shared HNI for CBRS Range*,
- review and resolve all referrals of alleged HNI non-use or alleged misuse, i.e., non-conformance with the *IMSI Assignment and Management Guidelines and Procedures* or the *International Mobile Subscriber Identity (IMSI) Assignment and Management Guidelines For Shared HNI for CBRS Range*,
- receive proposals for the modification of the IMSI Assignment Guidelines and Procedures, determine the appropriateness of the proposed modification and, if deemed appropriate, make modifications and publish the resultant new version,
- oversee the administration and management of IMSIs and IBNs, including the IMSI-A, in the U.S.,
- respond to queries requesting an interpretation of the content of the *IMSI Assignment and Management Guidelines and Procedures* or the *International Mobile Subscriber Identity (IMSI) Assignment and Management Guidelines For Shared HNI for CBRS Range*,
- determine the amount of the HNI application and code holder fees to be paid by HNI applicants and assignees,
- interface with the U.S. Department of State, as appropriate, regarding IMSI administration and management (the Department is the governmental entity responsible for interfacing with the ITU-T with regard to the assignment of IMSIs in the U.S.), and
- interface and initiate liaisons with other industry or regulatory bodies affecting the management and administration of IMSIs in the U.S., as appropriate.

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interface and initiate liaisons with other industry or regulatory bodies affecting the management and administration of IMSIs in the U.S., as appropriate.

#### **B-4.2**

The IOC may, if consensus is reached to do so, undertake additional responsibilities, within the bounds of the mission and scope regarding IMSIs, in the interest of the U.S. telecommunications industry.

#### **B-4.3**

The existence of the IOC, including its policies and procedures, does not interfere with the right of any telecommunications entity to refer or appeal matters to regulators or appropriate government agencies. The IOC does not supersede the authority, rules, or procedures of any appropriate U.S.-based telecommunications regulatory entities.

#### **B-4.4**

The IOC will perform its responsibilities in accordance with the *IMSI Assignment and Management Guidelines and Procedures* and in a consensus-based manner.

### **B-5 IOC FUNDING**

#### **B-5.1**

Annual code holder fees assessed on HNI and IBN assignees will fund the functions necessary for the IOC to perform its responsibilities (e.g., administrative, web site).

#### **B-5.2**

The IMSI-A will be funded by HNI and IBN application fees and a negotiated portion of the IMSI code holder fees. The application fee will be reviewed annually and modified, by mutual negotiation between the IOC and the IMSI-A's organization, to reflect a cost plus reasonable profit algorithm.

#### **B-5.3**

Maintenance and HNI and IBN Application fee modification requests from the IMSI-A may on occasion be needed and will be reviewed by the IOC and either accepted or denied based on consensus as defined in 6.3.3 of the IOC Operating Procedures.

### **B-6 IOC OPERATIONAL PROCEDURES**

#### **B-6.1 Issue and Appeal Identification**

##### **B-6.1.1**

Any IOC Member, HNI applicant/assignee, IBN applicant/assignee, liaisons from external fora or the IMSI-A may introduce issues/appeals to the IOC, either on their own

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behalf or on the expressed behalf of the issue/appeal originator in their absence. Each issue/appeal to be addressed by the IOC should be submitted on an IOC Issue/Appeal Identification Form (Attachment I). The completed form should contain:

- the name of the issue/appeal originator/advocate,
- a clear, concise statement of the issue/appeal, and
- a proposed resolution, if appropriate.

#### B-6.1.2

Only issues/appeals relating to the content of the *IMSI Assignment and Management Guidelines and Procedures*, the *International Mobile Subscriber Identity (IMSI) Assignment and Management Guidelines For Shared HNI for CBRS Range* and/or in conformance with the IOC scope and mission will be accepted for resolution by the IOC.

#### B-6.1.3

Completed issue/appeal identification forms should be submitted to the IMSI-A at any time but no later than two (2) weeks prior to a meeting. The IMSI-A will log the issue/appeal, post it to the IOC web site, and send an email message to all IOC members announcing its posting.

#### B-6.1.4

Completed issue/appeal identification forms received after the two (2) week period, including at an IOC meeting, will be handled at the meeting only with the consensus concurrence of the IOC Members present at the meeting.

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## **B-6.2 IOC Meetings**

### **B-6.2.1**

Scheduled IOC meetings will occur annually. The consensus of the IOC can modify this schedule as appropriate.

### **B-6.2.2**

If the IMSI-A receives an IOC Issue/Appeal Statement Form two (2) months or more prior to the next scheduled meeting, it will confer with the IOC leadership to determine if the issue/appeal is sufficiently urgent to warrant an *Ad Hoc* meeting of the IOC to discuss and resolve the issue/appeal (most appeals would automatically qualify for urgent resolution).

### **B-6.2.3**

The IMSI-A will make arrangements for all meetings (scheduled or *Ad Hoc*), and will notify the IOC membership list of the meeting logistics by email at least two (2) weeks prior to the meeting. The pre-meeting information should also include any relevant information necessary for the participants to be prepared for the meeting, e.g., new issue/appeal statements.

## **B-6.3 Issue and Appeal Resolution**

For each issue/appeal discussed at the meeting, participants will have received, in advance, both the Issue/Appeal Identification Form and notice that the issue/appeal is on the meeting agenda for discussion. Thus, participants should come to the meeting prepared to state their positions and assist the IOC in moving the issues/appeals quickly toward resolution.

### **B-6.3.1**

During the meeting, each issue/appeal will be discussed in sequence, as dictated by the agenda. As each issue/appeal is introduced by its originator (or designated representative), other participants will have a chance to introduce their related contributions.

### **B-6.3.2**

For each issue/appeal, after the initial issue/appeal statements and all contributions have been introduced, the leadership will lead the group towards agreement on a work plan to resolve the issue/appeal. To develop the work plan and to resolve the issue/appeal, the IOC will use the consensus process developed and refined by the industry over many years:

Consensus is established when substantial agreement has been reached among those participating in the issue at hand. Substantial agreement means more than a simple majority, but not necessarily unanimous agreement.

Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution. Under some circumstances, consensus is achieved when the minority no longer wishes to articulate its objection. In other cases, the opinions of the minority should be recorded with the

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report of the substantial agreement, or consensus, of the majority.<sup>4</sup>

#### B-6.3.3

The leadership will first attempt to identify all reasonable solutions to the issue/appeal. Once all reasonable solutions have been identified, the IOC will work towards consensus agreement on the best of the solutions.

#### B-6.3.4

When consensus is reached, new text will be drafted for the *IMSI Assignment and Management Guidelines and Procedures and/or the International Mobile Subscriber Identity (IMSI) Assignment and Management Guidelines For Shared HNI for CBRS Range* if revision of the document is appropriate. This new text can be derived from contributions or developed by consensus during an IOC meeting.

When the consensus reached does not require new text, but the consensus is with regard to an issue/appeal referred to the IOC, the IOC will inform the issue/appeal originator of its conclusion. This information will be sent to the originator in the form of an IOC letter jointly signed by the leadership.

#### B-6.3.5

All agreements and resolutions regarding issues/appeals referred to the IOC will be documented in meeting notes, which will be made available to all IOC participants, and will be posted on the IOC web site.

#### B-6.3.6

Once consensus is reached on textual modifications to the procedures, the revised document will be posted on the IOC web site for IOC membership comment. If the received comments are editorial in nature, the IMSI-A will make the appropriate revisions and forward the final document to all IOC participants and to the IMSI-A for industry wide distribution. If the comments received by the IMSI-A are substantive in nature, the IOC must be reconvened in order to resolve the substantive comments. The comment cycle will be 21 days.

#### B-6.3.7

In spite of due diligence on the part of the leadership and the IOC Membership, there may be issues/appeals on which it is not possible to reach consensus. In such cases, the IOC leadership may refer the issue/appeal, as documented, to the appropriate federal agency for consideration, guidance, or resolution.

#### B-6.3.8

To ensure that all Members have had an adequate opportunity to study and comment on each issue/appeal, the IOC generally should not reach resolution on any issue/appeal that is not included in the agenda, announced in advance of the meeting.

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<sup>4</sup> These paragraphs have been abstracted for the *Operating Procedures from ATIS Forums and Committees*.

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## **B-6.4 IOC Meeting Notes**

### **B-6.4.1**

The IMSI-A will record meeting participation and notes.

### **B-6.4.2**

Meeting notes will address the items discussed at the meeting, significant points noted during discussion, any agreements reached, and action items. The meeting notes, as containing the above sections, will be reviewed and approved during the meeting. The final meeting notes will be posted to the IOC web site within ten (10) working days of the end of the meeting.

### **B-6.4.3**

A list of all documents will be posted on the IOC web site and retained by the IMSI-A.

## **B-7 REVISIONS TO THE OPERATING PROCEDURES**

These Operating Procedures are maintained by the IMSI-A. Proposed revisions to these Operating Procedures may be submitted in writing by any IOC member to the IMSI-A along with supporting rational for the proposed change. The IMSI-A will present the proposed revisions to the IOC membership for review and consideration. Changes to the Operating Procedures must be approved by consensus and will be effective upon publication.



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## **Attachment 1 -- IOC ISSUE/APPEAL IDENTIFICATION FORM**

(See Section 6.1 of the IOC Operating Procedures for information regarding the completion and submission of this form)

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1. Issue/Appeal Title:

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2a. Originator:

2d. Date Submitted:

2b. Company:

2e. Appeal/Issue Number:

2c. Phone/Fax:

2f. Resolution Date:

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3. Issue/Appeal Statement:

4. Suggested Resolution:

5. Issue/Appeal Status (per meeting):

6. IOC Resolution: