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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

MH/T 4015-2013

**Specification of civil aviation application for WGS-84
(English Translation)**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces and abolishes MH/T 4015-2003 "World Geodetic System-1984 (WGS-84) Civil Aviation Application Specification", and Compared with MH/T 4015-2003, the main technical changes are as follows.

--Modified the overall structure of the article. The.2003 version includes 6 chapters, and the revised version includes 9 chapters, and 8 appendices are added (See Appendix A~Appendix H);

- Added the terms "airport elevation", "geoid", "elevation anomaly", "radio declination", "quality record", "Traceability", "source data", "calculation and derived data" and their definitions (see 3.4~3.7, 3.14~3.17);

- Modify the term "precision [accuracy]" to "precision" (see 3.8, 3.4 in the 2003 edition);
- Modify the term "integrity" to "integrity" (see 3.10, 3.6 of the 2003 edition);
- Added abbreviations "BIH", "CTP", "ITRF", "ITRS" (see Chapter 4);
- Chapter 5 "Requirements for Civil Aviation Application WGS-84 Coordinate System" of the 2003 edition was revised to Chapter 5 "Civil Aviation Data Quality" and Appendix A "Measurement Data Requirements", and changed the requirements of the following data items.
- Added the "Topographic Data Requirements" form (see Table A.1);
- Added the "Obstacle Data Requirements" form (see Table A.2);
- Modify the entry names of the airport reference point and helicopter landing pad reference point in the "Longitude and Latitude Requirements" to the airport reference point, straight for the reference point of the lift airport, modify the measured value in the data type to the measured value or calculated value (see Table A.3, 2003 edition

Table 1);

- Modify the entry names of the final approach anchor point and other important anchor points that constitute the instrument approach procedure in the "Longitude and Latitude Requirements" it is called the final approach fix point (or final approach point) and other important fix points that constitute the instrument approach procedure (or instrument

Table of other important points of the approach procedure), its published resolution has been changed from 1/100" to 1/10" (see Table A.3, 2003 edition

Table 1);

- Delete the important obstacle data items in the approach and take-off area in the "Longitude and Latitude Requirements" (Table 1 in the 2003 edition);
- Revise the published resolution of the centerline position of the runway in the "Longitude and Latitude Requirements" to "-" (see Table A.3, 2003).

Table 1 of the annual edition);

- Modify the name of the taxiway center line location point entry in "Longitude and Latitude Requirements" to taxiway center line location point or stop guide line Location point (see Table A.3, Table 1 of the 2003 edition);
- Modify the entry name of the geometric center of the entrance of the runway, the entrance of the helicopter landing pad TLOF or FATO in the "Longitude and Latitude Requirements" it is called the geometric center of the entrance of the heliport TLOF or FATO (see Table A.3, Table 1 of the 2003 edition);
- Added the position of the center line of the heliport ground taxiway, the air taxiway and the

transition channel in the "Longitude and Latitude Requirements" Position point data item, runway waiting position data item, taxiway intersection marking line data item, exit guide line data item, aircraft Data item of plateau boundary (polygon), data item of deicing and anti-icing facilities (polygon), number of obstacles in zone 1, 2, 3 According to the item (see Table A.3);

- Modify the names of the airport elevation and helicopter landing pad elevation entries in the "Elevation, Height and Height Requirements" to the airport elevation, for the elevation of the heliport, modify its data accuracy from 0.5 m to 0.1 m, and modify its published resolution from 1 m to 0.1 m (see

Table A.4, Table 2 of the 2003 edition);

- Modify the WGS-84 geoid wave at the elevation position of the airport and helicopter landing pad in "Requirements for Elevation, Height and Height" the entry name is WGS-84 elevation anomalies at the elevation locations of airports and heliports, and the data accuracy is modified to 0.5 m 0.1 m, modify its published resolution from 1 m to 0.1 m (see Table A.4, Table 2 of the 2003 edition);

- Modify the "Elevation, Altitude and Height Requirements" Central African precision approach runway threshold elevation and FATO landing entrance elevation, modify the accuracy of the data is 0.5 m to 0.1 m, and the published resolution of 1 m is modified to 0.1 m (see Table A.4, 2003 version of the table

- Revise "Requirements for Elevation, Altitude and Height" Central African precision approach runway entrance, FATO landing entrance, TLOF geometric center the WGS-84 geoid amplitude is the difference between the non-precision approach runway threshold, FATO landing entrance, and TLOF geometric center.

The elevation of WGS-84 is abnormal, the data accuracy is modified from 0.5 m to 0.1 m, and the published resolution is modified from 1 m to 0.1 m (see

Table A.4, Table 2 of the 2003 edition);

- Modify the runway for precision approach or FATO landing entrance in "Requirements for Elevation, Altitude and Height" as the precision approach runway entrance Elevation, FATO landing entrance elevation, modify its data accuracy from 0.25 m to 0.1 m, modify its published resolution to 0.5 m 0.1 m (see Table A.4, Table 2 of the 2003 edition);

- Modify the runway or FATO landing entrance, TLOF geometric center of precision approach in "Requirements for elevation, altitude and height" WGS-84 Geoid undulations are WGS-84 with precision approach runway threshold, FATO landing entrance, and TLOF geometric center the elevation is abnormal, the data accuracy is modified from 0.25 m to 0.1 m, and the published resolution is modified from 0.5 m to 0.1 m (see Table A.4,

Table 2 of the 2003 edition);

--Revised the published resolution of the landing entrance flying height of the precision approach in the "Elevation, Altitude and Height Requirements" to 0.5 m to 0.1 m (see Table A.4, Table 2 of the 2003 edition);

--Delete the obstacle data items in the approach and take-off area in the "elevation, altitude and height requirements".

Obstacle data items in the landing and circling area, and airway obstacle data items (see Table 2 in the 2003 edition);

--Modify the data accuracy of instrument approach procedure altitude in "Requirements for elevation, altitude and height" to 5 m to be based on PANS-OPS it is stipulated that the published resolution of 5 m is revised to "-" (see Table A.4, Table 2 of the 2003 edition);

--Added the data item of "Occa/H" in "Requirements for Elevation, Height and Height", the obstacles in zones 1, 2, and 3 Obstacle data item, runway center line position point data item, taxiway center line position point or stop guide line position point data item, straight the data items of the position of the center line of the ground taxiway, the position of the air taxiway and the transition channel of the lift airport (see the table in the 2003 edition)

--Modify the equipment route section in the "Azimuth Requirements" as the route section, and modify its published resolution of $1/10^\circ$ to 1° (see

Table A.6, Table 4 of the 2003 edition);

--Modify the "Requirements for Azimuth" in the air route and the terminal azimuth to form the positioning line of the air route and the locating point of the terminal area (see Table A.6,

Table 4 of the 2003 edition);

--Modify the published resolution of the entry (departure) segment of the terminal area in the "Azimuth Requirements" $1/10^\circ$ to 1° (see Table A.6, 2003

Table 4 of the annual edition);

--Modify the azimuth of the instrument approach procedure in the "Azimuth Requirements" to form the positioning line of the instrument approach procedure positioning point (see Table A.6,

Table 4 of the 2003 edition);

--Modify the ILS heading station in "Azimuth Requirements" to align to the ILS heading beacon azimuth (true), and modify its data type calculation the calculated value is the measured value (see Table A.6, Table 4 of the 2003 edition);

--Modify the MLS zero azimuth alignment in the "Azimuth Requirements" to the MLS runway alignment azimuth (true), and modify its data type the calculated value is the measured value (see Table A.6, Table 4 of the 2003 edition);