

# Issuing of Astronomical Phenomenon Certificates

## Procedure

Version 1.02



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## Version History

Date	Version	Author	Description/Comments
15/12/2009	1.00	Bill Gilder	Replacing former NRW policy RPS/2004/1701
2/08/2013	1.01	Bill Gilder	Rebranding due to departmental name change and organisational structure changes
18/01/2016	1.02	Peter Long	Minor amendment in first paragraph of Procedure – removal of words <i>request is processed by Access Solutions work unit</i> .  Footnote added to <i>Delegate</i> definition.

## Approval

Russell Priebbenow  Director, Cadastral and Geodetic Services, Land and Spatial Information	15/12/2009
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## Purpose

The purpose of this procedure is to provide for the preparation and issue of astronomical phenomenon certificates. The certificate is designed to satisfy the needs of Courts of Law for reliable and accurate information regarding astronomical phenomena. The procedure applies to all astronomical phenomenon certificates issued by the department under Sections 44 and 66 of the *Evidence Act 1977*.

## Procedure

All requests for astronomical phenomena certificates must be supplied in written or email format, and must identify the client's exact requirements. The client may need to be contacted to confirm these requirements. The request is processed by Land and Spatial Information – Cadastral and Geodetic Data work unit where the production of the certificate is undertaken. The request shall be allocated a departmental file reference number HQ/001163 and recorded in a job tracking spreadsheet.

### Process for Calculation

- Determine the latitude and longitude (to the nearest minute) of the requested location
- Using the identified latitude and longitude, utilize the *MICA* program to calculate all requested information:- <http://aa.usno.navy.mil/software/mica/micainfo.php>
- Validate these calculations against results obtained from the *Geoscience Australia* website:- <http://www.ga.gov.au/earth-monitoring/astronomical-information.html>  
(Note: There may be some slight variances eg.1-2 minutes)

For requests involving moonlight illumination information, reference is made to the *Moonlight Ephemeris Table* which is attached to departmental file CHQ/001163.

Results from *MICA* are adopted if no gross errors are apparent during validation. These results should be transposed to the court certificate. A covering letter of reply shall be prepared at the same stage.

An independent check of the results must be undertaken before the certificate is signed by the delegate. This check will include:-

- review the request letter/email
- check the latitude/longitude used for calculations
- check the results shown on the certificate against the *MICA* printout to ensure that the correct data has been used
- validate these results using the abovementioned *Geoscience Australia* website.

The officer checking the certificate shall certify, by signature and date, on the supporting documentation that the check has been performed.

The original certificate and a copy thereof shall be forwarded to the delegate for signature. The original is to be duly signed and the copy initialled for legal recording purposes. The signed original certificate shall be enclosed with the covering letter and forwarded to the client. A copy of the certificate together with all calculation documentation shall be filed with the original request on departmental file CHQ/001163.



## Responsibilities

**Manager, Cadastral and Geodetic Data** shall be responsible for the accuracy of all certificates issued in relation to astronomical phenomena.

## Definitions

**Department:** Department of Natural Resources and Mines (DNRM)

**Astronomical phenomena:** (for the purpose of the *Evidence Act 1977*) - includes the rising or setting of the sun or moon; the position of the sun or moon; the phases of the moon; and the degree of illumination or twilight.

**MICA:** Multiyear Interactive Computer Almanac - computer software used for the computation of astronomical phenomena data.

**Delegate:** A departmental officer who is delegated<sup>1</sup> the powers of the Chief Executive (Surveys) referred to in *Section 66* of the *Evidence Act 1977* to certify astronomical occurrence documents.

## References

The Nautical Almanac

The Astronomical Almanac

Departmental file CHQ/001163

The United States of America Naval Observatory - <http://www.usno.navy.mil>

Her Majesty's Nautical Almanac Office - <http://www.ukho.gov.uk/HMNAO/Pages/Home.aspx>

## Legislation

*Evidence Act 1977*

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<sup>1</sup> As at 19 Jan 2016, the following departmental officers are delegates, authorised under the departmental *Evidence Certification Delegation (No. 1) 2009*:

- Executive Director, Land and Spatial Information
- Director, Spatial Data and Mapping, Land and Spatial Information
- Director, Cadastral and Geodetic Services, Land and Spatial Information
- Director, Land Systems and Spatial Information Access, Land and Spatial Information