DEVELOPMENT AND VALIDATION OF AN INTERNAL DOSIMETRIC ANALYSER TO ASSIST CONFIRMATORY, ROUTINE AND SPECIAL RADIOBIOASSAY

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Introduction

The Internal Dosimetric Analyser (IDA) is a Microsoft Excel® based platform that uses the ICRP Occupational Intakes of Radionuclides series data to provide information and derived calculations useful for the interpretation of internal dosimetric measurements.

STRUCTURE OF IDA

IDA is divided into two sets of worksheets: one for single radionuclides, and the second for mixtures of radionuclides. For laboratories that handle actinides, most solutions or sources are mixtures of actinides or actinides together with fission and activation products.

VALIDATION

The IAEA Radiation Safety Technical Services Laboratory has been accredited to the ISO/IEC 17025 standard since 2006. IDA was fully validated by testing the data integrity, the calculations, the flowchart algorithms, and the ranges.
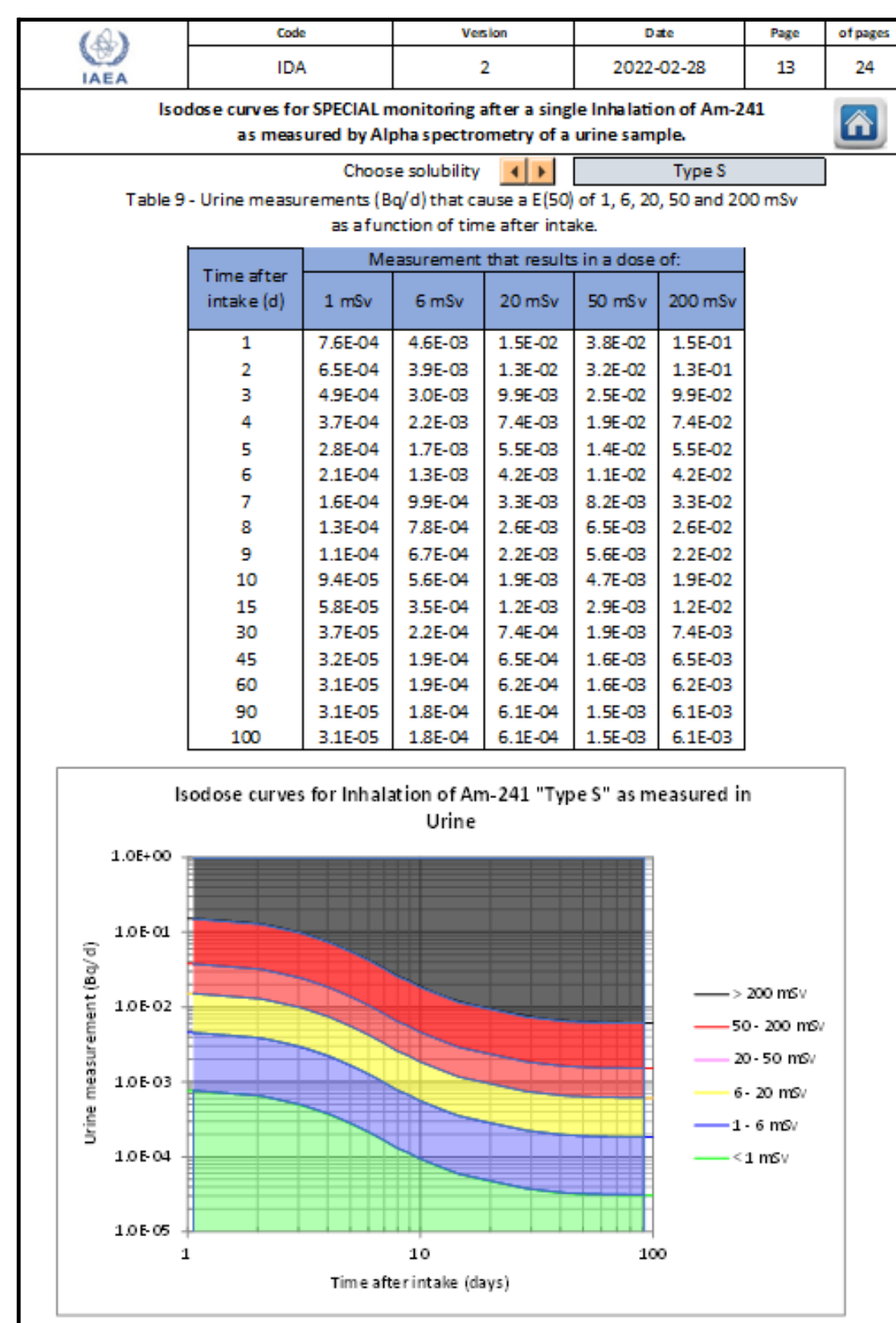
CONCLUSIONS

IDA is a useful complement to validated dose assessment software such as TAURUS, AIDE, CADOR*med*, etc.
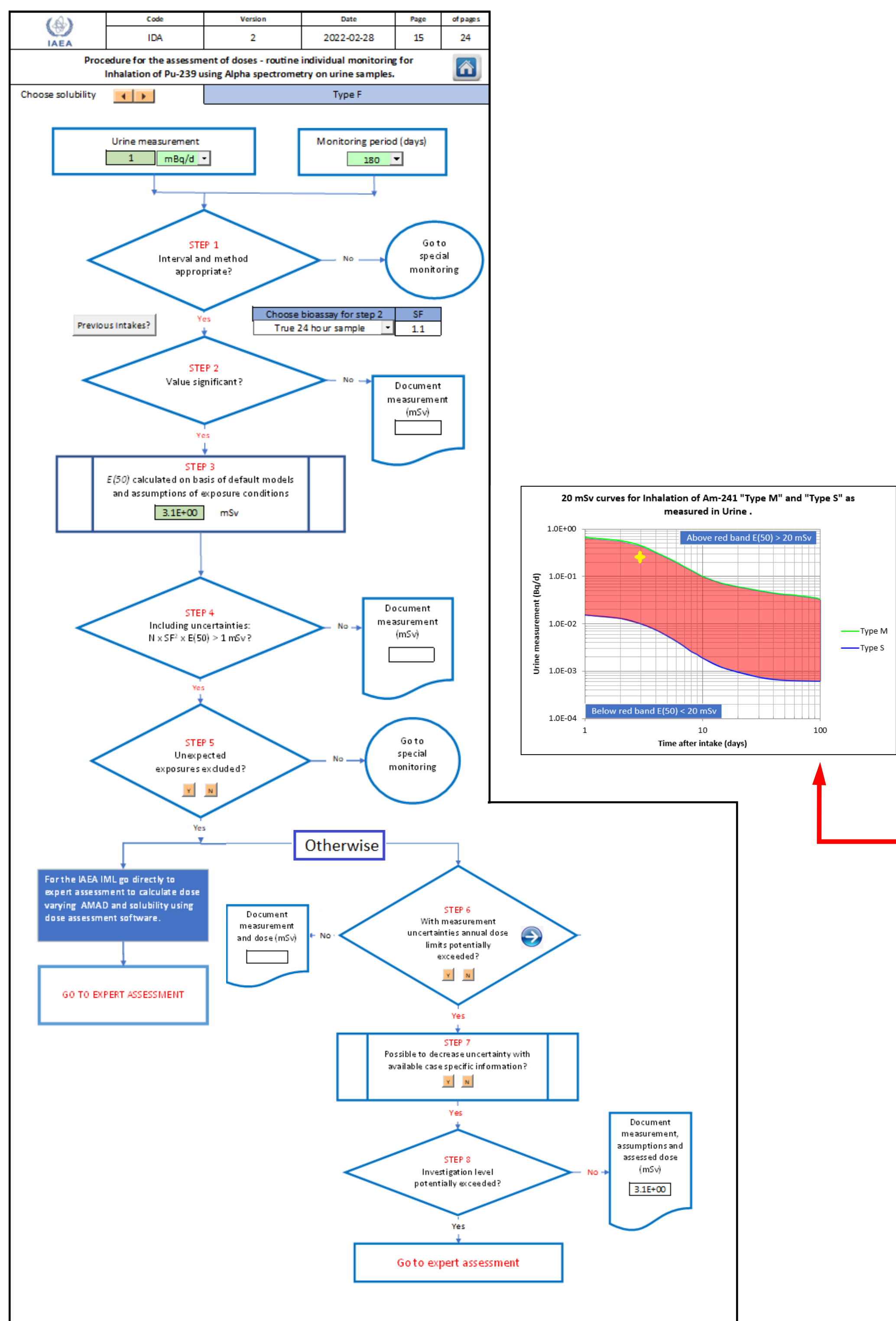
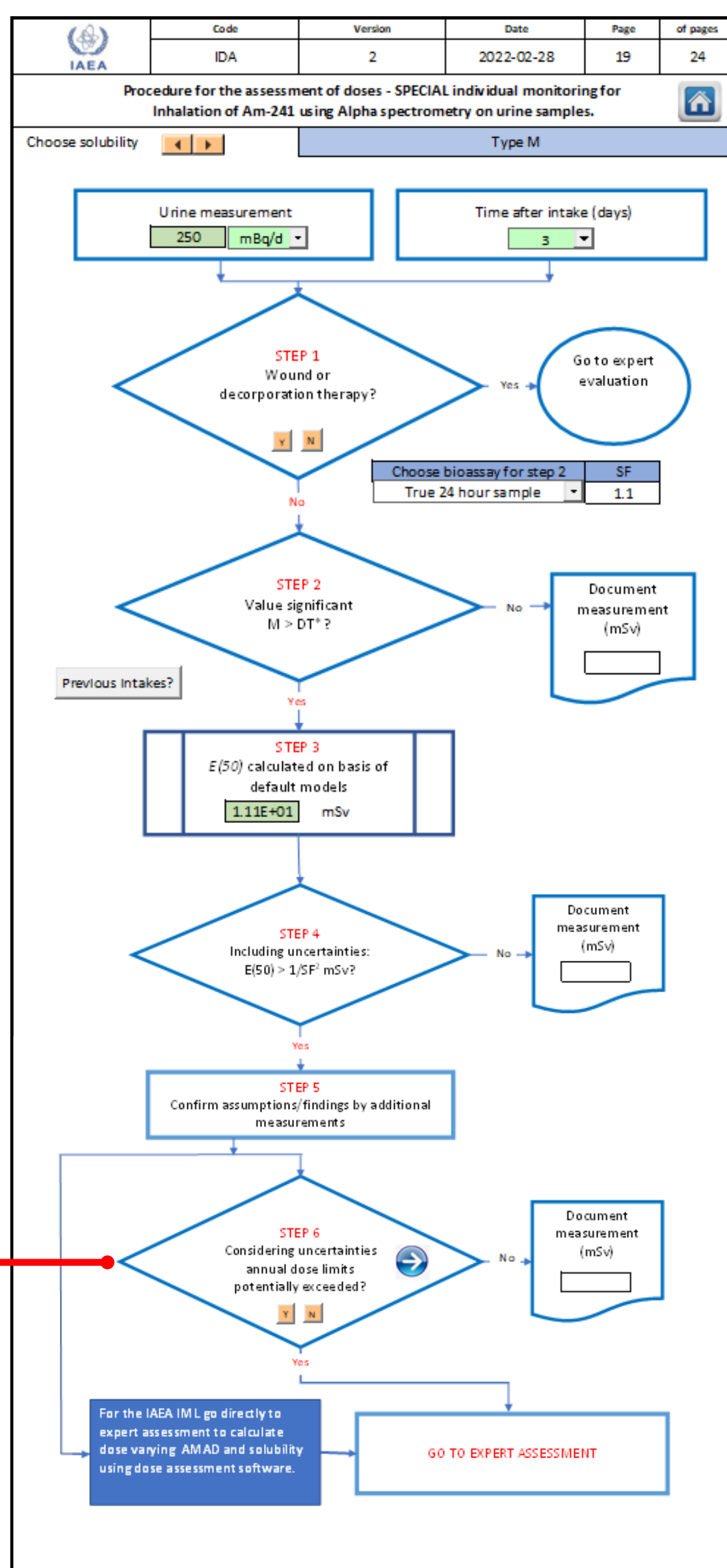## Single Radionuclide Analysis

❶ Derived recording levels
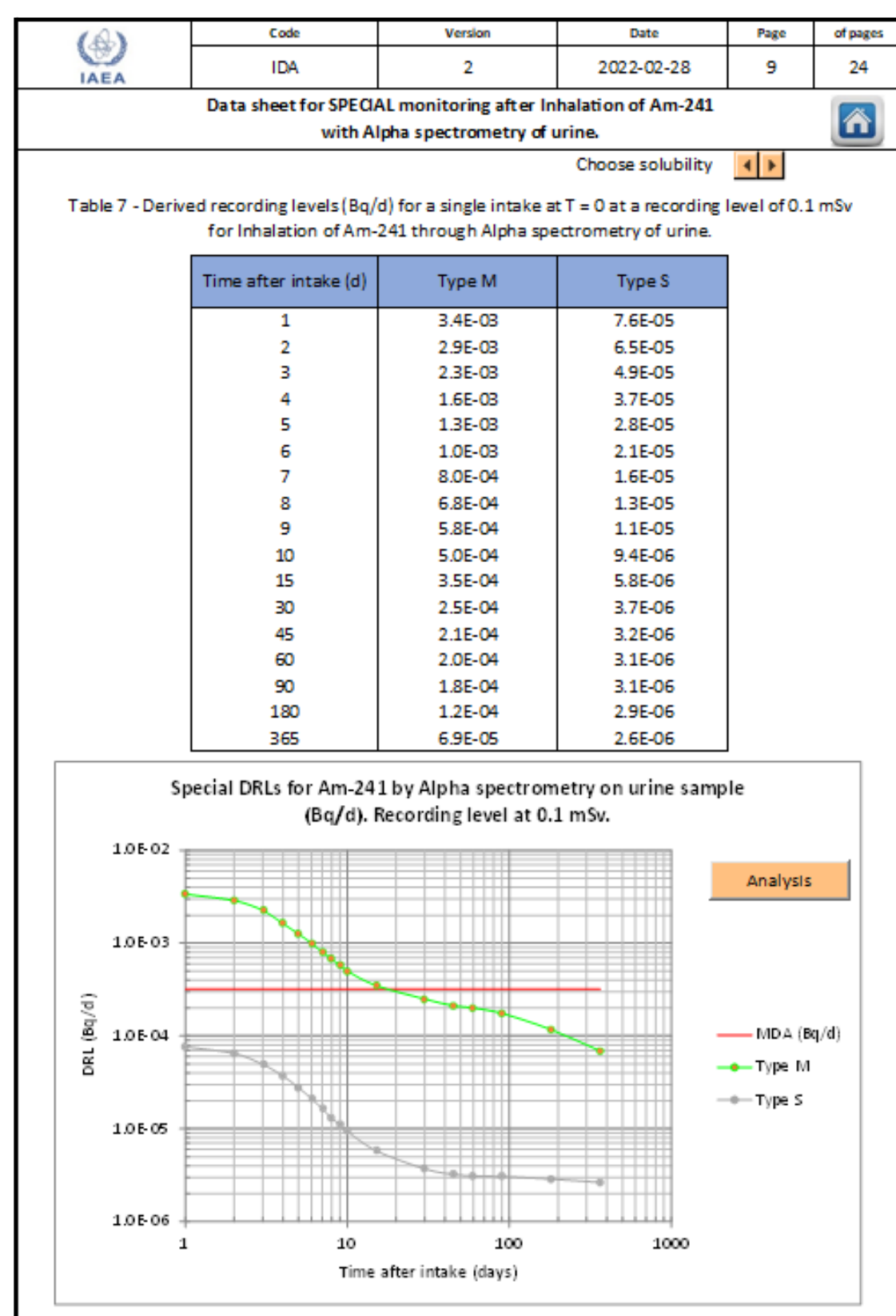
❷ Isodose curves

❶ ISO 27048 routine monitoring

❷ ISO 27048 special monitoring

Radionuclide Mixture Analysis

Aged NPP Pu/Am mix (DOE-STD-1128) and 20% enriched uranium