

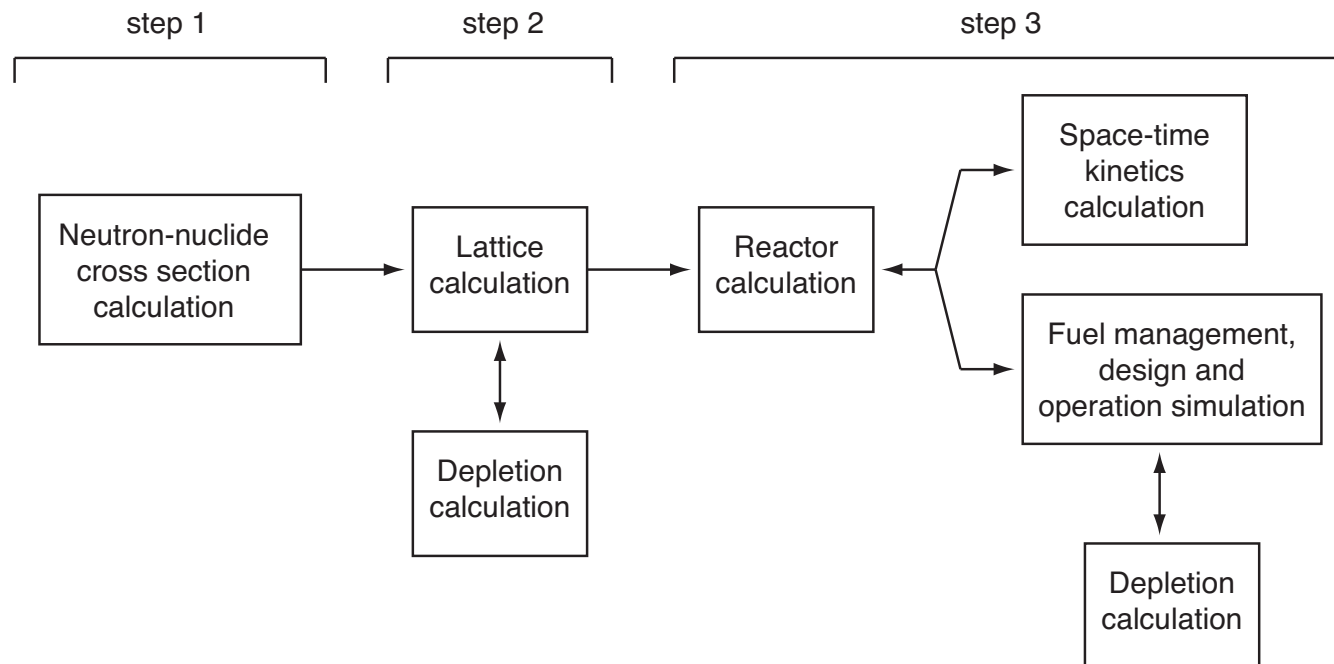
# Quality assurance in Version4

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# What is Version4?

Version4 is a complete and **consistent** software solution in reactor physics, including



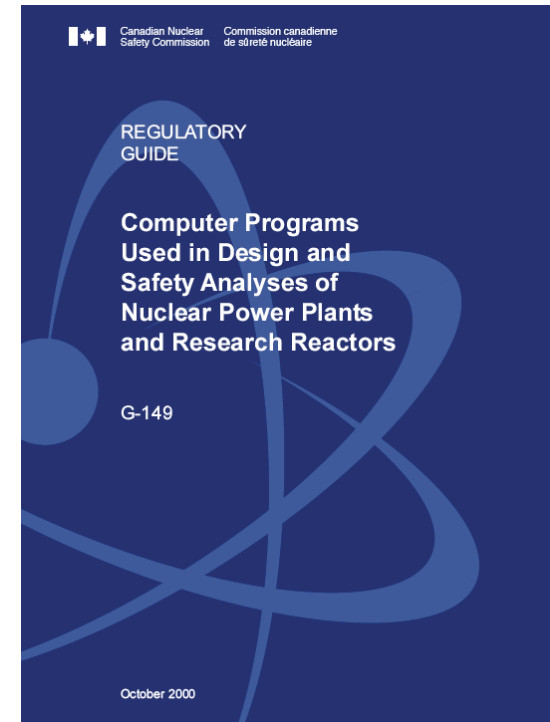
- NJOY99 + updates
- Lattice calculation (DRAGON4)
- Full core calculations (TRIVAC4, DONJON4 and OPTX4)

# Motivation for QA

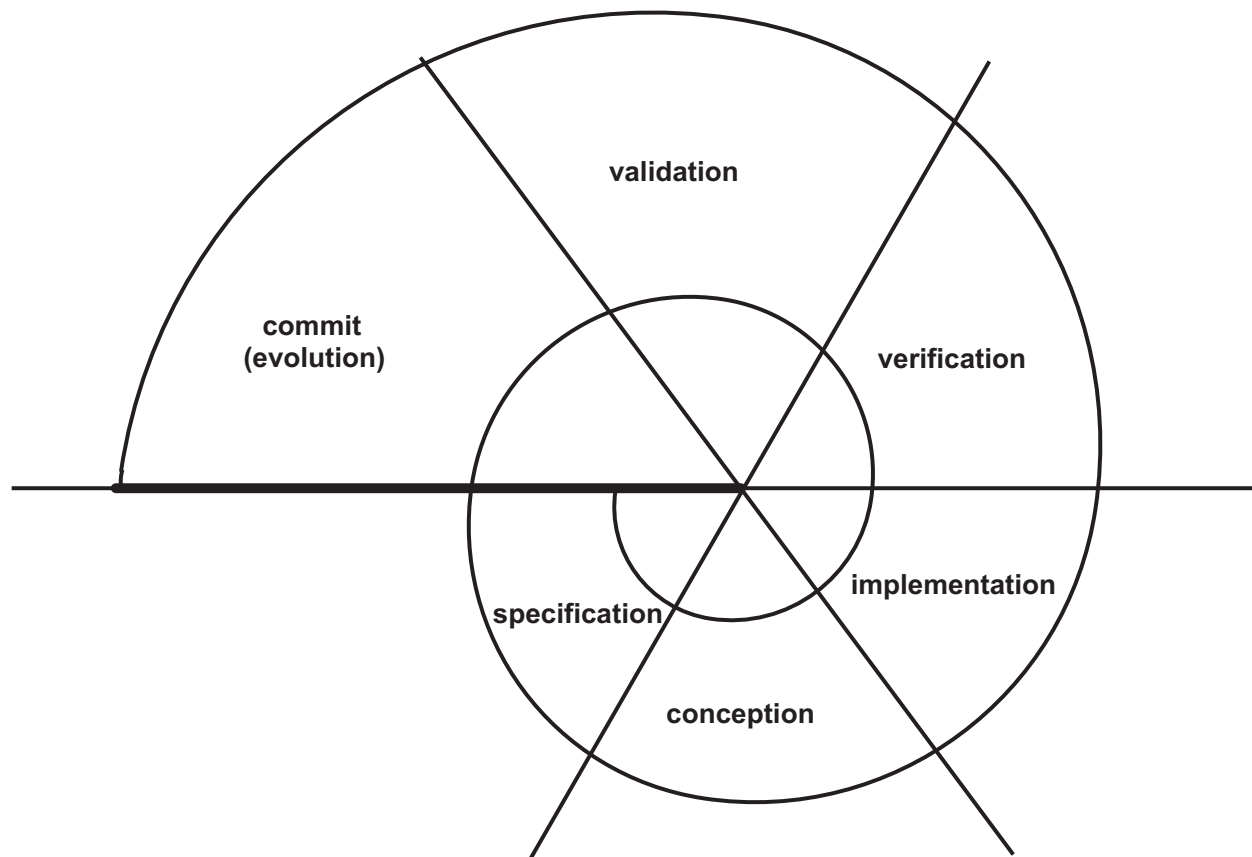
- Requirement for codes developed after October 2000 in Canada, as specified in CNSC–G–149:

Maintain a configuration management system to help ensure program integrity and to keep track of a program's versions and components.

- Experience with Apollo2 development (1996–2000)
  - QA of Apollo2 codebase
  - QA of computational schemes



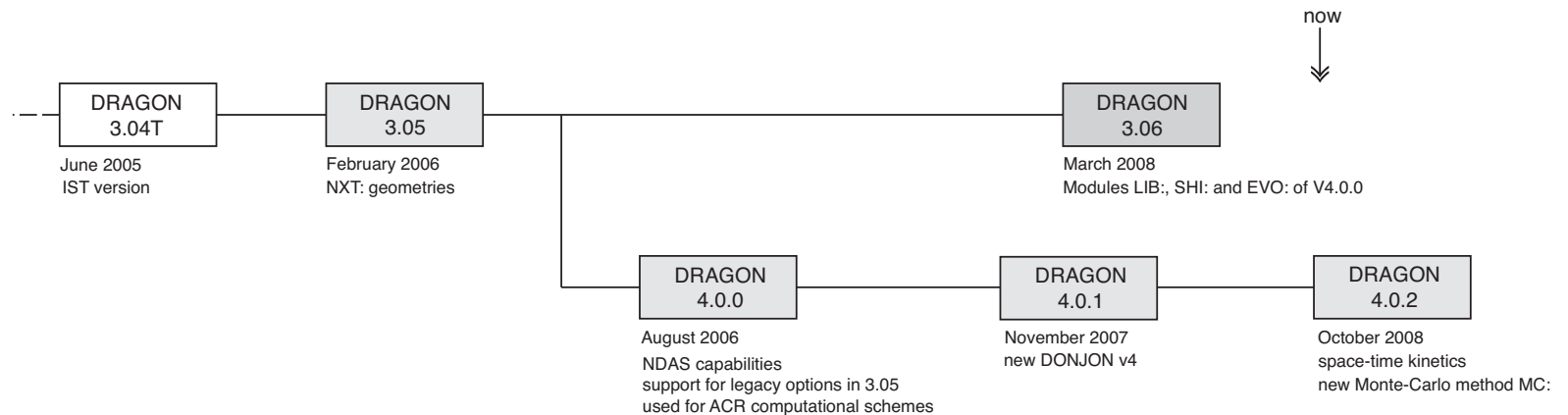
# A more consistent development model 1



# A more consistent development model 2

- Version control of the project components
  - A single Subversion repository holds the complete project
  - The repository contains sources, configuration scripts, non-regression tests,  $\text{\LaTeX}$  docs and issue-tracking info.
  - LGPL subsets are available for download
- Issue tracking and spiral development management
  - the issue-tracking data is kept in the Subversion repository
  - pre- and post-commit Python scripts are hooked in the repository to help issue-tracking
  - a web/CGI tool is available to all users for submitting issues
- Configuration management of the codes Njoy, Dragon, Trivac, Donjon and Optex (in V4.0.3).
  - simple UNIX install scripts are used
  - PCs are supported through Cygwin

# Version4 roadmap



- Each cycle of the spiral is a **development version** identified by an **issue number**
- Version 4.0.0 is the **initial commit**
- Versions 4.0.0, 4.0.1 and 4.0.2 are three **tagged versions**
  - 40 cycles between 4.0.0 and 4.0.1
  - 32 cycles between 4.0.1 and 4.0.2

Card-index: issue000016

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- 1) Add missing NXT: doc in IGE295
  - 2) Correct a bug in PLANE keyword of GEO: module
  - 3) Implement the (descmacupd) construct in MAC: module
  - 4) Add SHEM345 capabilities in NJOY99
  - 5) Correct a small bug in LIBDEN.f
  - 6) Correct a bug in LIBWIM.f
- 

develop

Fri Feb 9 09:02:11 2007

subversion revision=88

issue000016: Collection of 5 small revisions

M /Version4/trunk/Njoy99/dragr.f

M /Version4/trunk/Dragon/src/MAC.f

M /Version4/trunk/Dragon/src/EDI.f

M /Version4/trunk/doc/IGE294/Section5.08.tex

A /Version4/trunk/Dragon/src/MACRDM.f

M /Version4/trunk/doc/IGE295/SectDmicrolib.tex

Available at <http://www.polymtl.ca/merlin/>.

The distribution available in Version 4.0.2 is including

- dragr, PyNjoy and updates to NJOY99.
- DRAGON Version4
- TRIVAC and DONJON Version4
- documentation

Some components of the repository have been removed from the web distribution: NJOY99 source, ACR non-regression tests and NDAS capabilities.



IGE–287 report is available, describing

- Version control of the project components
- Issue tracking and spiral development management
- Configuration management

