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12 May 2020

**NUCLEAR ENERGY AGENCY
NUCLEAR SCIENCE COMMITTEE**

Working Party on International Nuclear Data Evaluation Co-operation

**WPEC Expert Group on the Recommended Definition of a General Nuclear
Database Structure (GNDS)**

NEA GitLab Guidance for the GNDS project

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JT03461583

1 Introduction

The Generalised Nuclear Data Structure (GNDS) specifications are maintained by the Working Party on International Nuclear Data Evaluation Co-operation (WPEC) Expert Group on GNDS (EG-GNDS). These specifications are maintained and developed on the NEA GitLab at:

git.oecd-nea.org/science/wpec/gnds/formats

The EG-GNDS has agreed methods for working with a GNU git based system to implement fixes, propose extensions and agree releases of the official GNDS specifications:

NEA/NSC/WPEC/DOC(2019)1

In order to practically make use of the GitLab system, this document provides a simple description for how the GNDS specifications are stored and managed in the NEA GitLab. It then outlines the steps required to:

Section 2 Propose a change to the GNDS specifications by modifying the git repository and raising a new merge request into the official development version

Section 3 Review the merge request for a proposal to change the GNDS specifications

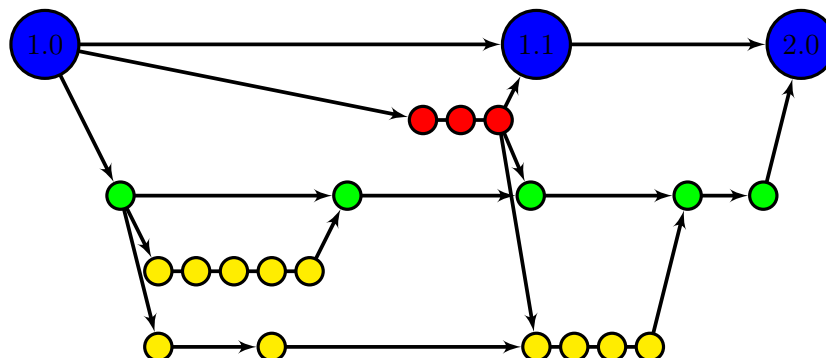
The GNDS specifications are contained within a GNU git repository. This is a distributed version control system that allows all users to have a complete copy of the repository system via `git clone` or direct download from the remote server. GitLab is the platform hosted at the NEA which manages the git repositories and provides project management tools including merge request tools and various other interfaces.

The GNDS specifications project is organised using git ‘branches’ which allow users to modify the specification in parallel, propose mergers to official ‘development’ and ‘release’ branches. The general practice is for new proposals to be branched from and into the development branch and for the EG-GNDS to approve the merger of the development branch into specific releases. These are summarised schematically in Figure 1.

Merge requests provide the mechanism to review and approval proposals before they enter into the official GNDS specifications. All pending merge requests are available on the relevant GitLab page:

git.oecd-nea.org/science/wpec/gnds/formats/merge_requests

Figure 1: Branching system for the GNDS repository, moving from left to right, including releases (blue), the official development version (green), hotfixes (red) and proposals (yellow).



2 Making a proposal

Making a proposal for a change in the GNDS specifications is a straightforward process within the GitLab system. The topic of the proposal may have already been discussed and a draft proposal may be in progress. In all cases, the proposer should:

- review the active proposal branches¹ and/or merge requests and
- contact the EG-GNDS Chair in advance to co-ordinate with any other teams that may be preparing a similar proposal.

Where a new proposal is warranted, the first step is to familiarise yourself with the structure of the repository and how to build the specifications. This can be done by either downloading the development branch of the repository² or by cloning the full repository with GNU git³ with the command:

The **Makefile** in the root directory contains the instructions for making the GNDS specifications that are used by the GitLab system to generate the document. The environment required to build the document includes a modern L^AT_EX installation, Python3 with the `pygments` package and GNU `make`.⁴

¹Available at git.oecd-nea.org/science/wpec/gnds/formats/-/branches/active.

²Downloads are available at git.oecd-nea.org/science/wpec/gnds/formats/-/archive/development/formats-development.zip.

³*nix and macOS users should be able to install git directly via package managers while Windows users that do not use a Linux sub-shell may download from git-scm.com.

⁴For a minimal system, see git.oecd-nea.org/science/wpec/gnds/formats/blob/master/Dockerfile, the Dockerfile used in the NEA GitLab continuous integration system.

To start preparing the proposal, create a new branch from the official development branch of the repository by using the commands:

```
git checkout development
git checkout -b proposal/my-proposal-short-name
```

where **my-proposal-short-name** should be some short string indicating the purpose for the proposal (e.g. 'fission-yields', 'tsl-covariances', etc.). Files can then be modified, added, committed and pushed to the NEA GitLab using the standard git commands. Once a proposal branch is ready for submission as an official proposal to the EG-GNDS, a merge request should be initiated on the NEA GitLab:

git.oecd-nea.org/science/wpec/gnds/formats/merge_requests/new

As shown in Figure 2, select your proposal branch as the 'Source' branch and the official development branch as the 'Target' branch. Then click the green button to proceed to the screen shown in Figure 3. At this point, the title should be automatically populated and you should prepare a short description in the comment box available. When ready, click the green button to submit the merge request. **You should then notify the Chair of the EG-GNDS** that your proposal has been made via a merge request in the GitLab system so that the next stages of the approval process can begin.

Figure 2: Example page for initiating a merge request for a complete proposal within a branch of the GNDS repository

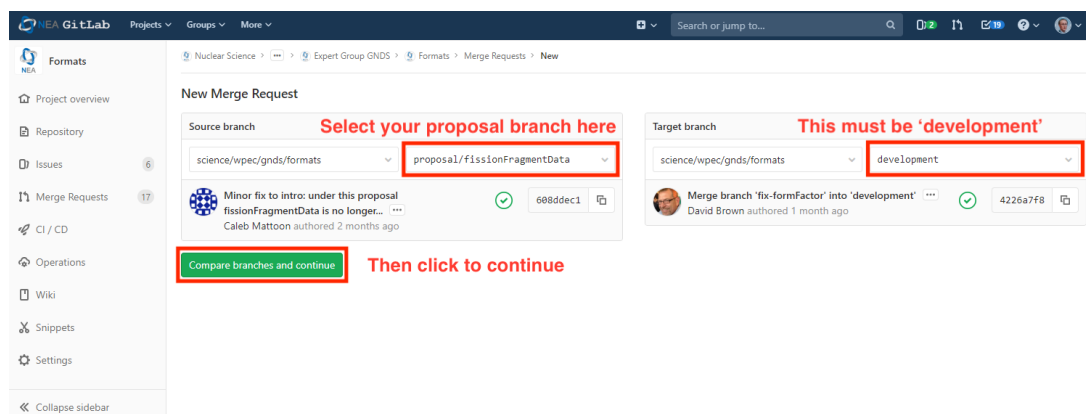


Figure 3: Example page completing and submitting a merge request for a GNDS specification proposal in the NEA GitLab

The screenshot shows the 'New Merge Request' page in the NEA GitLab interface. The page title is 'New Merge Request' and it shows a merge from 'proposal/fissionFragmentData' into 'development'. The 'Title' field contains 'Proposal/fission fragment data' and is highlighted with a red box and the annotation 'The title format should match the branch name automatically'. The 'Description' field contains a short description and is highlighted with a red box and the annotation 'Please add a short description for the proposal'. The 'Assignee', 'Milestone', and 'Labels' fields are highlighted with a red box and the annotation 'Leave these alone for now'. The 'Submit merge request' button is highlighted with a red box and the annotation 'Click here to submit'.

3 Reviewing proposals

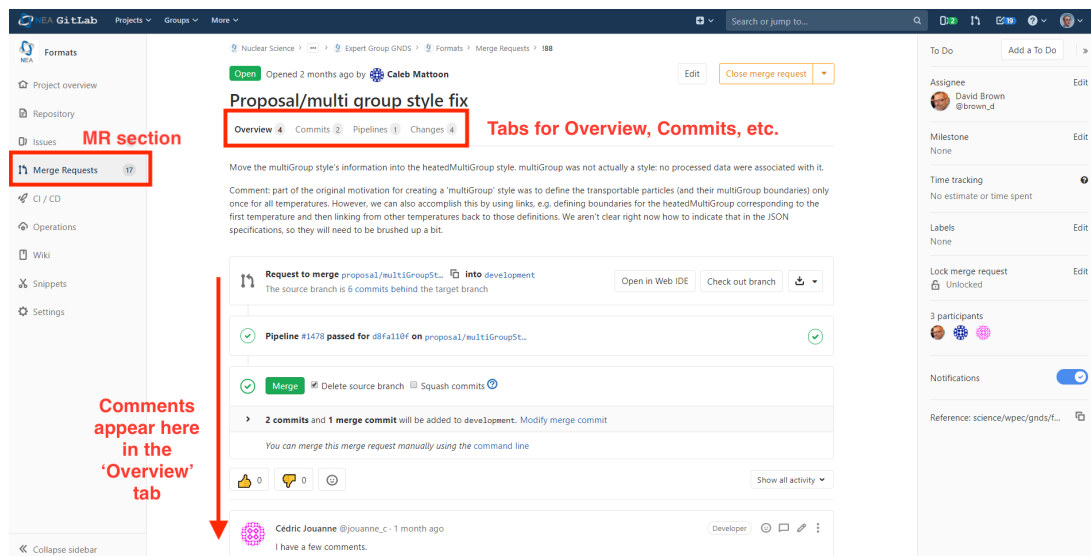
Review of proposals does not require examination of the underlying git repository or any complex processes. Those that are nominated by EG-GNDS members to perform a review of a proposal should be provided with:

1. Access to the NEA GNDS GitLab repository
2. Links to the merge request for the proposal in question, which shows the changes between the development version of GNDS and the new version being proposed
3. PDF versions of the specifications for:
 - (a) The original development version
 - (b) The proposed new version with changes
 - (c) Where possible, a `latexdiff` version showing differences

Based on the PDF versions and changes shown in the merge request, the reviewer should prepare a statement indicating whether they:

1. Support the proposal without modifications
2. Support the proposal with modifications not requiring additional review

Figure 4: Overview of the merge request page for a proposal in the GNDS NEA GitLab



3. Would support the proposal with specified modifications after at least a second review
4. Require major modifications to the proposal

Where modifications are requested in order to support the proposal, these should be specified in sufficient detail for the proposer to implement the changes. Where major modifications are required, a description for why the proposal is not considered acceptable should be made.

These should be stored in the merge request comments section, as shown in Figure 4, where the ‘Overview’ tab includes the main comments thread for the merge request. Other tabs allow the reviewer to check the various individual repository commits, the continuous integration pipelines which test that the repository compiles and all line-by-line changes in the repository.

To make your comments as a reviewer, scroll down to the bottom of the page where you will find a comment box waiting for your input. Type your message using any of the standard ‘markdown’⁵ allowed by GitLab. When you have completed the text, click on the green ‘Comment’ button to save your message. You can still edit it after the comment has been saved, but without clicking this button nothing will be saved in the system⁶. An example is provided in Figure 5.

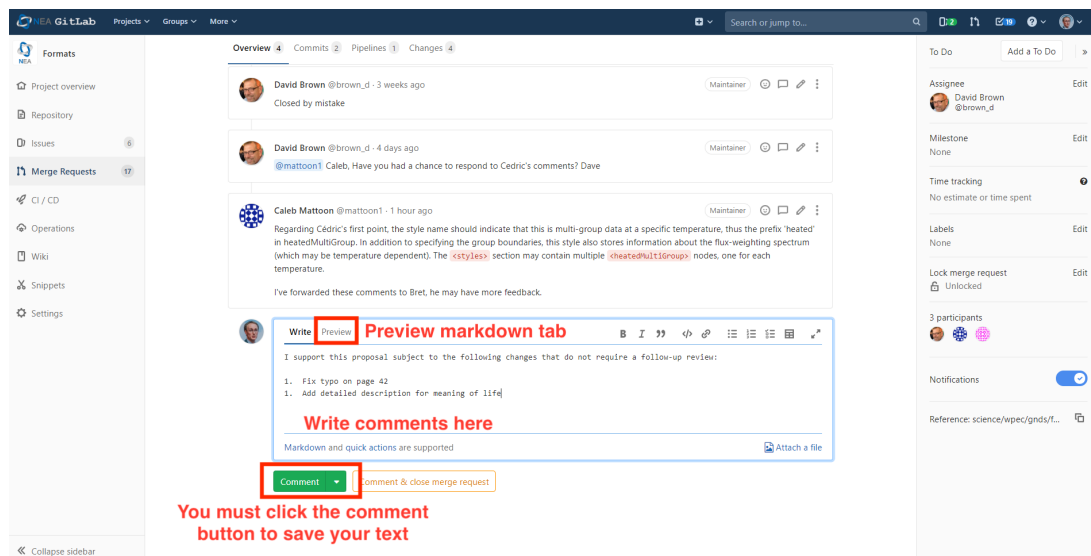
Please do not close any merge request. Closed requests are no longer considered for merger and this occurs only when the proposer accepts to stop work on a proposal requiring modifications. In this case, the merge request may be reopened when work resumes.

Once you have made a comment on the merge request, you will be added as a participant

⁵See a markdown cheatsheet if you want to render non-standard text including lists, code environments, tables, etc. You can test to see how this is rendered with the ‘Preview’ tab on your comment box.

⁶Although some browsers may save the text in this box, none of this will be visible to others.

Figure 5: Submitting a review in the NEA GitLab via the merge request comments area



and by default will be notified by the system in automated emails to any updates including new comments. You can change these settings and others at:

git.oecd-nea.org/profile/notifications