Mandate Concepts for new features

1. Intent

Enforce new library features to use concepts in the specification when templates are used.

2. Scope

LEWG and LWG procedures.

3. Motivation

- There are new facilities that do not declare concepts in their specifications, but rather use the old wording technique of “Mandate” or similar to constrain the template parameters. E.g: [P0792R12],[P0288R9], [P2505R4]
- Concepts were adopted to the C++ standard for C++20.
- Concepts enable libraries to express their intent clearly.
- Concepts provide improved specification, type checking and error messages.
- We should use concepts in our own library for the reasons they exist.
- Keeping the standard library without concepts tells other programmers that concepts shouldn’t be used.

4. Underlying Reasoning

This paper asks the committee to expose and discuss the underlying reasons for not fully adopting concepts.

5. Possible Outcomes

The author sees few possible outcomes from the discussion of this paper:
- Concepts are enforced for new library facilities (recommended)
- Concepts are “nice to have” when provided (keeping current status)
The discussion is boiled down to clearly set the line for cases that concepts are required and cases that concepts are not required or even dangerous in a way.

6. Wording

There is no wording for this paper as it is a procedure change for the committee process.