Positron Source Assessment Guideline

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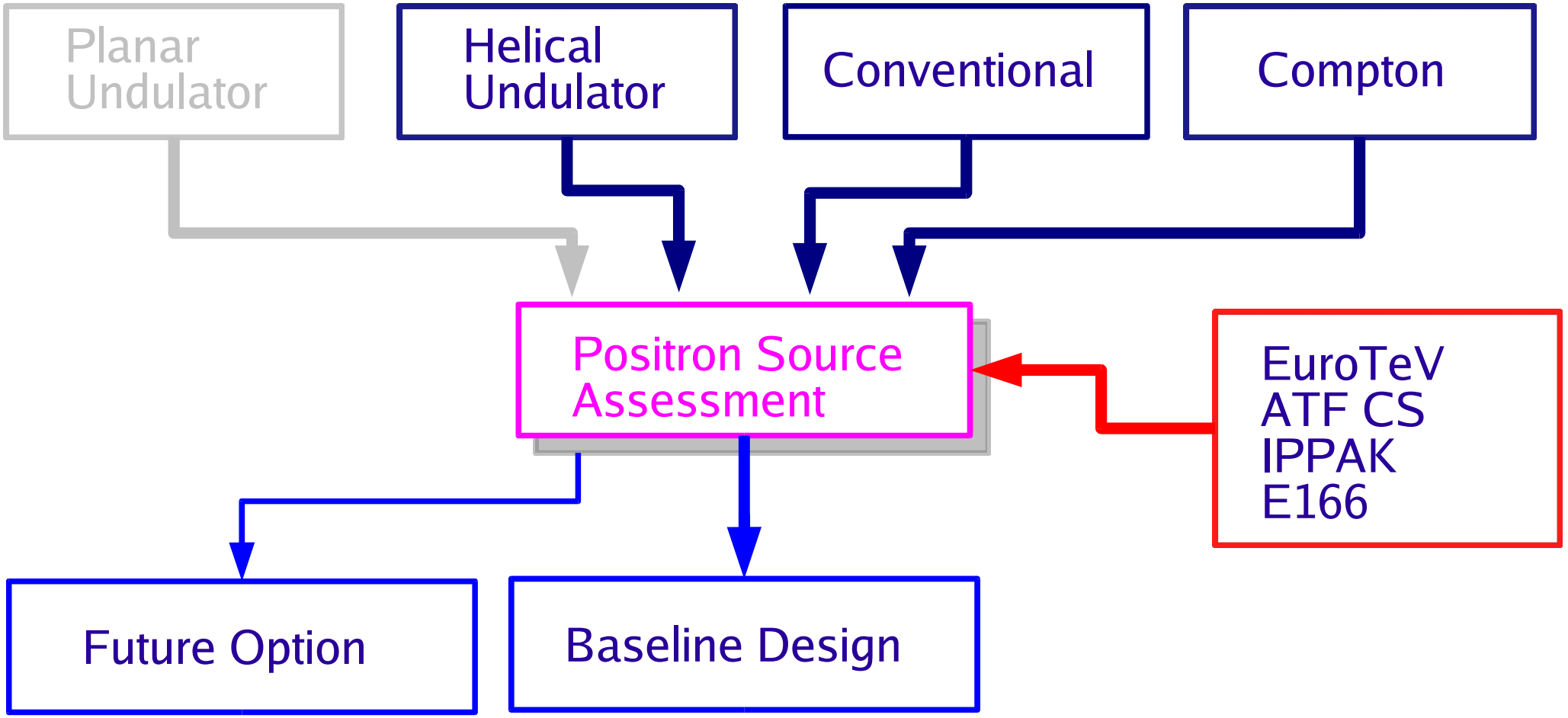
- Assessment framework
- Scoping
- Obligations
- Summary

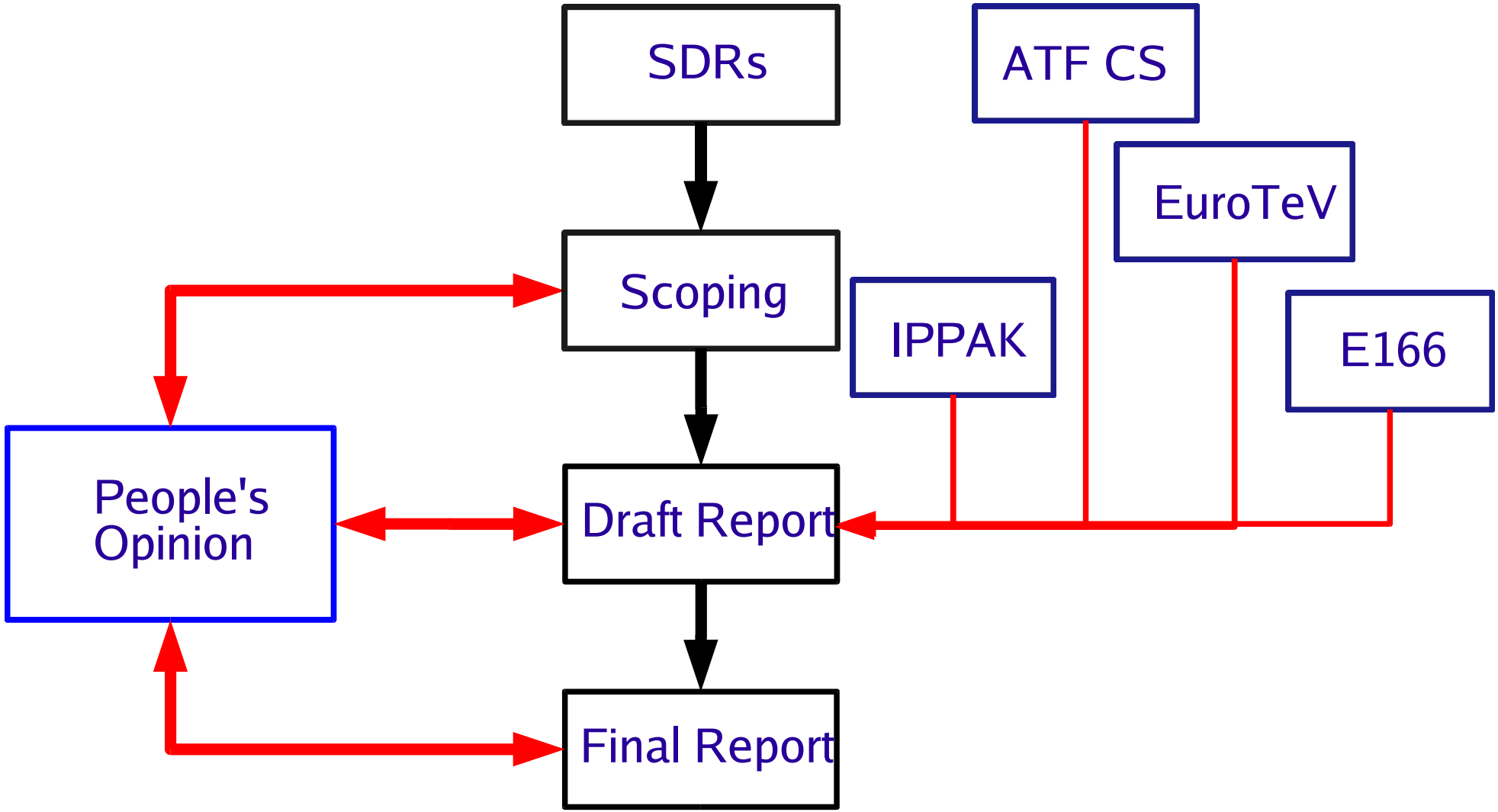
Assessment Framework

- Three systems were presented in this WS/WG.
- Among them, we have to decide the base line and option(s) if necessary.
- First of all, we have to agree in the basic structure of the assessment.
- We have to decide our scope : what we decide, what we assess.

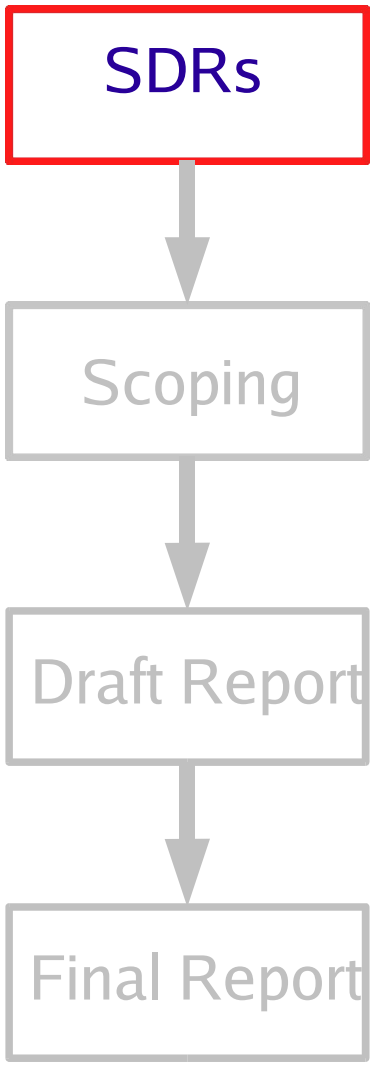
WG3a Flow Chart



Assessment Flow Chart

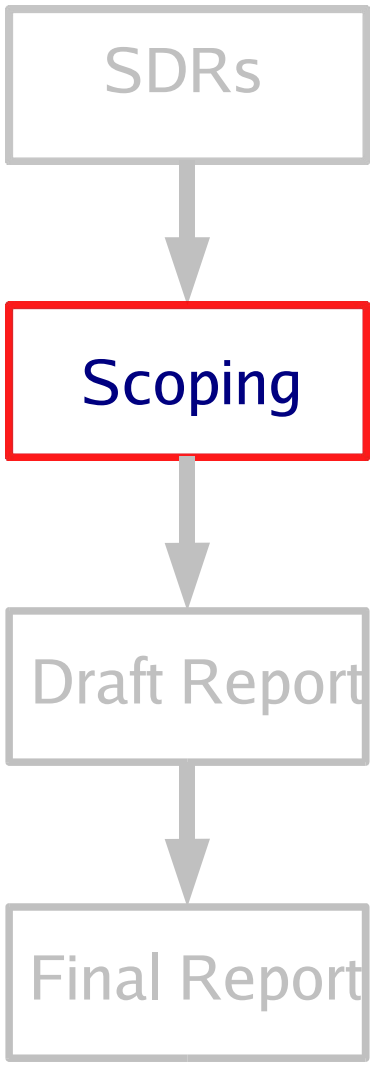


SDRs



- SDR(System Design Report) describe alternative systems.
- They were already presented in this WG. They might be modified through the discussion.
- SDRs provide materials to write the draft report. SDRs are then Draft of Draft.

Scoping

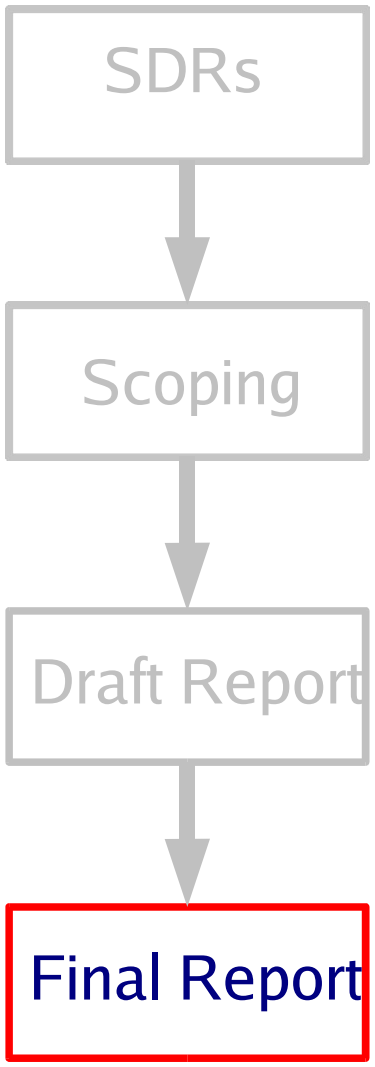


- In scoping, what we decide and assess, is determined.
- Scoping will be done in this talk including our discussion.

Draft Report

- Draft report includes the description of the systems, related experimental and theoretical efforts, and scopes.
- All proposed system are assessed in each item which is determined by the scoping.
- Draft report summarizes the result of this initial phase of the assessment, but no conclusion.
- The draft report is initiated by the conveners in the next week, and finalized by including the people's opinions and study results.

Final Report



- Final Report describes everything what we did in this assessment.
- In the final report, a synthetic decision is made for the base line and option(s) by summarizing the results of the analytic studies and the people's opinions.
- This report is really finalized after several iterations of people's discussions.
- A part of this report is going to be BCD.

Scoping

- What we decide:
  - A baseline design of ILC positron source.
  - Option(s) if a system was superior to others and the reliability is likely to be confirmed in future.
- What we assess: items
  - Risk: Possibility that the system does not work by some reason. Assess for each case.
  - Property: Ability which the system can achieve. Assess all systems.

Open Issue 1

- L-band warm structure 1ms operation : U , LC and Cv.
- Target damage : Cv.
- Radiation damage on target : U,LC
- Thermal load of the capture section: Cv.
- ~~*Damage by the operation failure : U*~~ *(MPS)*
- Damage or failure by the beam break up : U
- Degrade the electron beam quality: U
- Positron Stacking in DR : LC

CV: Conventional **U**: Undulator **LC**: Laser Compton

Open issue 2

- e beam stability in Compton Ring: LC
- Vacuum pumping : U
- Stability of integration of optical cavity : LC
- Radiation loss, heat load in DR : LC
- ~~Fast Kicker operation with large kick angle for DR injection : U and Cv~~ (DR)
- Mechanical failure on the rotation target: Cv and U
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Property Items 1

- Cost
- Reliability : Frequency of accidental operation failure.
- Availability : Fraction of the working time to the operation time. Recovering time, failure time, etc.
- Stability : How stable can the system provide e+.
- Maintainability : How long, how frequent, how difficult.

Property Items 2

- Commission time: How long to work.
- Operability : How difficult to operate. Fail-safe. Consequence for and from other system.
- Energy flexibility
- Redundancy: Can the system work when a part of the system is in trouble?
- What else?

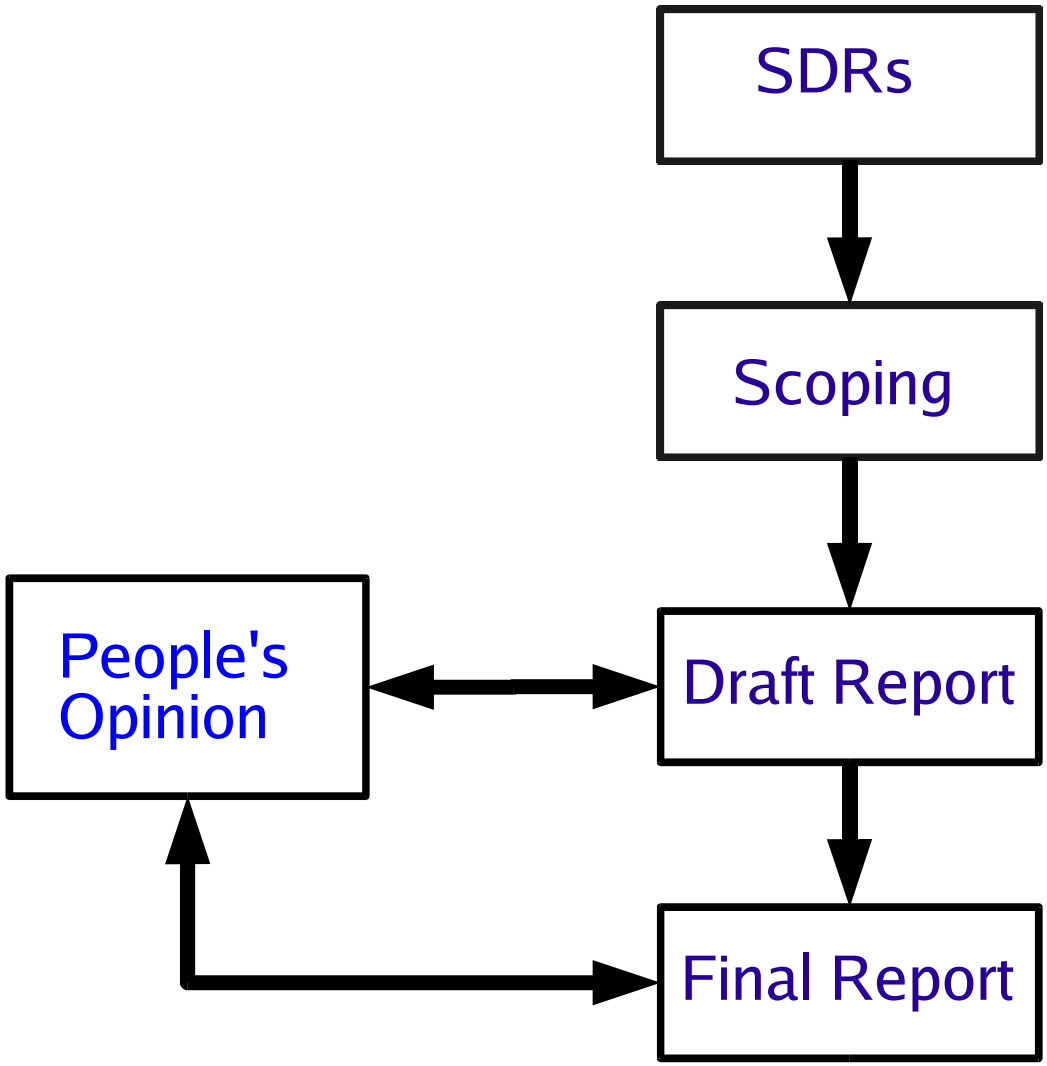
Obligations 1

- Spokes-person (?) of each systems have obligations to answer all items.
- The results will be summarized by the conveners to make the draft reports.
- The item which can not be answered soon, is analyzed by the people's opinion anyhow.
- The conveners will make the draft report.
- The draft report have to be opened for the people.

Obligations 2

- The opinion will be collected by the conveners with an enough period.
- The conveners draft the final report after this process.
- Draft of the final report have to be opened for the people.
- The report is finalized during this discussion period by the conveners.

Time Line



Done

In this WS.

Open at October 1, finish at October 15

Open at November 15, finish at December 7.

Summary

- A frame work of the ILC positron source assessment is proposed.
- Four steps approach : SDR, Scoping, Draft report,and Final Report.
- For the scoping, risk items and property items are presented. Including our discussion, the scoping for the assessment will be done in this WG.
- BCD will be finished in this December.

Questions

- Is the assessment framework consistent to GDE process, since I am afraid of that we are fired.
- In the meantime, the spokesperson and the convener are partly overlapped. Do we need to form a different panel for this process?