Optimism

- **R&D to be resumed!**
- **Three beam tests planned at Kek,**
  - **Hybrid target (KEKB Linac)**
  - **Liquid target (ATF Linac)**
  - **Boron-Nitride Window (KEKB)**
  - **(Starting JFY09)**
- **Possible ART funds in USFY10**
- **How does R&D contribute to baseline risk mitigation?**
- **Fall workshops to renew GDE focus on this technically important subsystem.**

Renewing the RDR risk register.

- in addition to simple updates
  - Work completed
- to be made uniform through the application of common criteria across each subsystem's risk listing.
  - positron subsection of the register may be difficult
- Standard matrix - scoring approach:

Risk is defined as the probability of failure:

- 6 kinds of failure:
  - basic technology,
  - engineering,
  - production yield,
  - product reliability,
  - existence of a viable backup, and
  - schedule.
- we should consider only the first 2 out of the list above: basic technology and engineering.

Decision point ‘times’:

- The project can respond to perceived risk at any time,
- generally accepted that the penalty for doing so increases with time
- For the TDP-1 evaluation of risk we should adopt our reference point to be the end of TDP-2 (Ewan's time T_1).
  - (to be completed and submitted as part of the SB2009 Proposal Document in mid-December 2009)
- This is justified because we have a comprehensive R & D Plan which includes resource estimates and technical milestones.

Risk Register shows impact

- The perception of risk is derived from a series of simple questions based on present status and plans.
- The anticipated penalty is based on how the project would respond and apply a mitigation strategy once failure is evident or the risk becomes too great.
- Both the risk (probability) and penalty (cost of responding to failure) must be considered in order to gauge the impact.
- It is the 'impact' which is recorded and summarized in the register.

Register update process

- the 53 element (10 positron items):
- score each element:
  - based on what has been achieved to date and
  - where we expect to be following TDP-2 using the following questions.

To Jim Clarke (e+ TAGL):

- A specific request: use the scheme below on the 10 e+ baseline register entries
  - He has agreed
  - (ACD entries, shown to AAP at TILC09, also to be evaluated).
- Will ask the other AS leaders to do the same.
- Akira will likely lead the SRF discussion directly.

Scoring: Basic Technology

- **Within the state of the art? 0**
- **One year advancement with minimal resources 1-2**
  - **(no beam test facility experiments required)**
- **Two to three years advancement - moderate resources 3-5**
  - **(BTF experiments may be required)**
- **More than 3 years advancement -substantial resources 6-8**
  - **(BTF experiments definitely required)**
- **New technology required; development cycle unknown 9-10**

Scoring: Engineering Development

- **Fully tested, completed production - units on hand? 0**
- **Prototype exists and has been tested 1-2**
- **Hardware and software development needed 3-5**
- **Detailed design underway, 6-8**
  - **development task effort not 'scoped'**
- **Concept defined, detailed design effort not 'scoped' 9-10**

Updating the RR - Step by step:

1. ***Record and justify the scores*** **with a few sentences including a reference to presented or published material.**
2. ***Develop a practical mitigation strategy*** **for each of the delineated project stages for each of the failures. What would the project do if progress was deemed unsatisfactory until the end of TDP-2?**
3. ***Estimate the cost*** **for the mitigation effort, using costing guidelines similar to those used for the RDR**
4. **Roll the resulting scoring and mitigation costs up to *create a summary 'risk assessment'* to be entered at the top level of the register as a kind of executive summary.**
5. ***Review the most serious register elements*** **in detail to ensure the scoring, mitigation strategy and costing have been done consistently according to basic guidelines. (Perform top-down management review.)**
6. ***Identify new register elements*** **that have emerged since 2007 or that were missed in the initial draft.**