

## 2 Responses to Action Items in HEEC Pre-operational Approval

The conditions for operational approval presented in the HEEC pre-operational approval are listed below together with a discussion of our actions.

- 1) *All conditions listed as Conditions for Pre-Operational Approval shall be met.*

Done

- 2) *Procedures must be finalized and approved by HEEC.*

Procedures for the operation of the chamber are finalized and are presented in Chapter 4, "Gas system operations".

- 3) *When magnets are installed the backward end is considered to be a Permit Confined Space. Appropriate warning signs and procedures should be posted. This is to be regulated by ES&H (Joe Kenny).*

Completed. Procedures have been approved by Joe Kenny and are included in Chapter 9, "Access to the Drift Chamber Electronics".

- 4) *The copper zeolite filters in the gas racks are sealed only with a valve when removed for regeneration. These valves must be equipped with caps, which are permanently chained to the valves.*

The zeolite filters have been removed from the system.

- 5) *Simplified instructions for gas system non-experts must be written. This must include daily checklists, normal operating ranges and required responses to alarms.*

A checklist has been used twice daily since September by the cryogenics group, and is reproduced in Chapter 4. Tables of the normal operating ranges and alarm levels are included in this documentation and are posted in the gas hut. The responses to alarms have been written up in the BaBar "Care and Feeding Manual", and are reproduced in Chapter 8. The BaBar shift takers do not otherwise operate the gas system.

- 6) *A procedure must be in place and approved by HEEC that guarantees all safety sensors are rezeroed and inspected quarterly, and all safety sensors are recalibrated at least annually. The quarterly safety sensor inspection may be extended if operational experience provides sufficient proof of safety and HEEC approves of the change.*

Jim McDonald is the technician responsible for the quarterly tests of the Hazardous Atmosphere Detectors and for the other regular maintenance of the gas system. The dates of the last and next inspections are posted on a maintenance board in the gas hut, and the completed checklists are stored in the cabinet in the hut.

- 7) *HEEC must approve the DCH proposal to fix the incorrect sealing of the secondary flammable gas routing barrier or it must be demonstrated to be unnecessary.*

The secondary gas barrier around the outer cylinder has been completed and is now flushed with nitrogen.

- 8) *HEEC must inspect and review the complete experimental setup and give operational approval.*