

SPIRE/PACS (CEA-SBT)	Monthly Report –January 2002 HAPPY NEW YEAR	Date: 01 Feb 02
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Work Package: Cooler

[SPIRE-SBT-REP-001169](#)

1. Subsystem Progress Since Project Inception		
Detailed design of the coolers (CQM, STM, PFM & FS) done. Manufacturing of 2 CQM + 2 STM done. Manufacturing of new large test cryostat in progress (“standard” test cryostat available). Product Assurance plan implemented.		
2. Subsystem Progress This Month		
<ul style="list-style-type: none"> - First Electron Beam welding phase on cooler heart and heat switches successfully performed - Sorption pumps made - Braising phase on cooler heart and heat switches almost completed - Anomaly spotted on structures : EB weld has induced a deformation of 400 µm max. of the side plate onto which the switches are mounted. Deformation not acceptable. MRB held : causes and solutions identified. Selected Solution is being implemented (angle bracket will be added)– Note : future FM structures will be almost 100% similar to CQM structures with added angle bracket; the idea is of course to avoid any delta qualification. So far no impact on the planning for the CQM (structures shall be available before cooler hearts will be ready to be included in them). - STM cooler available as soon as modified structures ready. Vibration tests to follow - Following ITT for clean room, subcontractor selected. Clean room expected to be operational end of April. - Kevlar characterisation campaign : fatigue test set up has been modified – to date Kevlar 34 (breaking at 12 DaN) has been solicited 6 000 000 times between 7.8 – 9.2 DaN (nominal tension in cooler : 5 DaN) - Large test cryostat : delivery expected middle of february 		
3. Problem Areas	Remedial Action	
Deformation on structures	Solution identified (see above) – will be qualified Feb. 02	
4. Engineering Activities		
Tensiometer : in contact with subcontractor : couple of solutions will be evaluated		
5. Design Changes		
Modification of structure design to avoid deformation for future models (FM, FS) : to be validated following results on CQM/STM structures		
6. PA/QA Activities		
Inspection, anomalies, etc...– documentation updated - General QA management.		
7. Subsystem Management Issues		
None		
8. Actions Requiring Immediate Attention		
SBT documents approval by SPIRE and PACS projects		
9. Status of Previous Actions		
None		
10. Activities Yet to be Achieved		
11. Milestones		Status
Winter 00-01	Coolers Detailed Design	Completed
May 17 th 2001	Coolers DDR (PACS & SPIRE)	Completed
June 26 th 2001	Subcontractor selection for machining	Completed
October 2001	Parts Delivery	Completed
Nov/Dec 2001	CQM Coolers assembling	Expected to be done end of Feb. 02
Nov/Dec 2001	STM Coolers Assembling and Vtest	Expected in Feb. 02 – V test in March
Dec 2001	STM Coolers delivery	Delayed, but compatible with projects planning
Winter 01-02	CQM Coolers Qualification	Almost on schedule – expected to end in May
Spring 2002	CQM Coolers Delivery	Expected in June 2002
12. Schedule Changes		
See above – slight slippage, but remains compatible with SPIRE and PACS schedules. CQM not expected by projects for delivery before fall 2002 Note : awaiting inputs from PACS for SPIRE ECR on cooler (HR-SP-RAL-ECR-022). Modifications could add delays		