

# Endcap Signal Feedthrough

Michel Lefebvre  
ATLAS LAr Week  
19 May 1999

- Steel Order
  - Order fully coordinated with BNL
  - The order was ready to go Monday May 10th to lowest bid. They now require the order to be “non-rejectable”. The order is on hold.

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- Pin Carrier Order
  - Glasseal is chosen for the contract
  - Ongoing coordination with BNL
  - Victoria's position with regards to pin material:
    - If we stick to the original (soft) pins, Victoria is ready to finalize a purchase order in coordination with BNL
    - Victoria is not prepared to consider a new pin carrier material before adequate testing is made. As for the original Glasseal pin carriers, this would require a certain number of pin carriers (say 10 or 20) to be purchased by Victoria (and probably also by BNL), for detailed tests, before any purchase order can be considered.
- Bids
  - Glasseal
    - 448 pins: US\$ 677.83 each for 625
    - 512 pins: US\$ 768.08 each for 625
  - PCT
    - 448 pins: US\$ 2056.65 each for 625
    - 512 pins: US\$ 1927.79 each for 625

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- Vacuum Cable Order
  - Victoria and CRPP/STC are disappointed that BNL cannot bid in Canada
  - Prior to the choice of vendor for the endcap vacuum cables, Victoria believes that the following milestones must be met:
    - **A note containing the ATLAS requirements on the vacuum cables must be written and approved by the electronics convenors, the LAr project leader and the signal feedthrough project leader;**
    - **The performance of the cables considered must be reported and discussed;**
    - **The outcome of the bids must be compared and discussed.**
  - We propose the following dates:
    - May 28 1999: final draft of ATLAS requirement note out for approval
    - July 8 1999: final report/presentation on the vacuum cable performance and bid results
    - July 30th 1999: choice of vendor
    - September 1st 1999: Order out to vendor

# Endcap Signal Feedthrough Project

## Canadian Responsibilities

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- Design
- Fabrication
  - Signal Pigtails purchased from Orsay
  - MOU signed
- Commissioning
- Transport
- Reception
  - DC Electrical and ambient leak testing
  - Leak tester provided by ATLAS CERN?
- DC Electrical tests after installation
- Assistance during installation:
  - Cover up to SF50k towards the cost of an orbital cutter
  - Assistance during welding on the cryostat
  - Assistance for leak testing during/after installation

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Terry Hodges  
ATLAS LAr Week  
19 May 1999

- Endcap Cryostat Signal Feedthroughs Safety Certification Procedure ATL-AE-EY-OO03 Draft
  - point 1
    - The bellows is not part of the pressure vessel. This was discussed and agreed at the PRR.
    - Adherence to the pressure vessel codes should only be mandatory for the part of the feedthrough which shares the argon space of the cryostat, namely the cold box plus the cold flange.
  - point 2
    - Discussions required with regards to TIS/TE/MC/1-2269
  - point 4
    - We agree to perform ambient leak tests upon reception of the feedthrough units. We understand the He leak checker to be provided by ATLAS CERN.
  - Point 5
    - Victoria does not have responsibility for mechanical tests (leak test, weld tests) or procedures during or after integration of the feedthrough on the cryostat.

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- Design, Qualification and Test of ATLAS LAr Signal Feedthroughs TIS/TE/MC/1-2269, 26/04/99
  - Point 2
    - We agree with the requirement that the bellows should not squirm at the exceptional operating pressure of 2.8b.
    - We believe it may not be possible to achieve a safety coefficient on rupture of 3 without redesign. The bellows is not part of the pressure vessel, as was agreed at the PRR.
  - Point 3
    - Welding procedures and third party approval being investigated.
  - Point 4
    - We understand the ferrite content examination will only be required for one sample of each type of weld.
  - Point 5
    - We understand that impact testing is not required by the ASME code for the types of steel used in the feedthroughs.
  - Point 6
    - We understand that a pressure test to 5 times the operating pressure of 2.8b should be made on a single pin carrier.
  - Point 8e)
    - Victoria does not have responsibility for mechanical tests (leak test, weld tests) or procedures during or after integration of the feedthrough on the cryostat.