

## SPES - Specific Services for CMS

### Minutes of the meeting n° 25 held on 10/04/2002

Presents : A.Herve, R.Schmidt, S.Fratianni / EP-CMO  
G.Faber, P.Ingenito / EP-HC  
S. Bally, A.Gaddi, W.Van Doninck / EP-CMI  
O.Teller / EP-CMA  
P.Baillon / EP-DEE  
H.Postema / EP-CMT  
R. Pintus / EP-TA3  
R.Principe, N.Bangert, G.Nuessle, I.Wichrowska-Polok / ST-CV  
J.Greenhalgh / RAL

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#### **1. Underground cooling plant for CMS (I.Wichrowska-Polok).**

In ST/CV the technical specification for the supply and installation of the Underground cooling plant is being prepared. This technical specification will concern water-cooling circuits situated in USC cavern inside CV zone, between CV zone and cooling stations inside UX cavern. The list of cooling circuits with values of heat to remove was presented (see annexe 1). All the concerned persons were asked to verify if table is complete and if all values are correct. The table was sent to all persons from SPES mailing list.

#### **2. EE services (J.Greenhalgh).**

Justin has spoken about EE services inside 53 degree crack. EE requires water-cooling with a precision  $18 \pm 0.05$  °C (regulating circuit). It is a big challenge to provide and to maintain the cooling with this specification. The regulating pipes should be placed together to share the insulation. All the coolant supply (incoming) pipes, power and regulating, should be placed away from heat-generating services. All ducts containing LV cables should be cooled, ideally by return power coolant. For the detailed description of the problem, please see annexe 2.

#### **3. Fire exposure tests and High Expansion Foams (R.Schmidt, S.Fratianni).**

Reiner has presented the results of polyethylene fire tests. The objectives were to test the adherence of a qualified intumescent paint on borated polyethylene and to derive differences between painted and unpainted samples. The samples used were: 1m of Swagelock hose unpainted and same painted, one brick of US poly, painted and one similar Russian brick painted and unpainted. Estimated power emitted was 20 to 40 kW, energy dispensed in 5 minutes was 2 to 3 kWh and power received by samples at 20 cm distance was up to 40 kW/m<sup>2</sup> but only 10 kW/m<sup>2</sup> average.

The results were following: -US poly was not adequately protected, fails in 1 minute (20% of burn time), -Russian poly was reasonably resistant (failure at 80% of burn time), -Swagelock unburned painted, totally burned unpainted.

Actions: -hoses: to perform halogen test on Swagelock sample, check the sufficiency of fire resistant classification, -borated polyethylens: check for halogen content in Russian sample (see annexe 3).

Stefano has spoken about High Expansion Foam, which will be used in CMS and Atlas fire fighting. Description of the foams you can find in annexes 4a and 4b.

#### **4.AOB.**

**Next meeting: 15/05/2002  
at 10:00, conference room 892/1-D20**

I. Wichrowska-Polok