

Questions and Recommendations

**Talk: Ventilation and Air Conditioning concept of XFEL**

Speaker: Mrs Feuker

Q: Should we variegate the air supply temperature depending on the tunnel condition?

A:

Q: Should we keep the supply temperature constant and install distributed local heaters in the tunnel?

A:

Q: What are the risks of the current VAC design?

A:

Q: Can we achieve  $21 \pm 1$  °C a dedicated position at beam level?

A:

Q: Does the cascade control scheme fit? Do we need a feed forward?

A:

Q: Can we take the thermal constant of the tunnel walls and installations into account to reduce the temperature tolerance.

A:

Q: Should we try to reach  $\pm 0.1$  K at the end (beam direction) of the undulator string?

A:

Q: What fluctuation of the temperature is tolerable versus time?

A:

Q: Do we need 100 % redundancy for the whole system, air handling unit, cold water and electrical power?

A:

Q: The air humidity is limited to 65 % in order to prevent corrosion. Can we exceed the humidity temporary during summer season?

A:

Q: Can we start the machine installation in a cold tunnel?

A:

Q: Should we reuse the air from one tunnel to the next against the beam direction?

A:

Q: Do have a suggestion for improvement?

A:

## **Talk: Temperature Calculations of XTL tunnel**

Speaker: Mr. Ngada

Que: Does the model give a realistic answer of the tunnel temperature?

A:

Que: Do we need a dynamic model to know the dynamic behaviour of the machine operation mode?

A:

Que: Do we need CFD simulations?

A:

Que: Should we variegate the air supply temperature depending on the tunnel condition?

A:

Que: Should we keep the supply temperature constant and install distributed local heaters in the tunnel?

A:

Que: Should we limit the humidity to 65 %.

A:

Q: Can we start the machine installation in a cold tunnel?

A:

Q: Should we reuse the air from the XTD tunnels?

A:

Q: Do have a suggestion for improvement?

A:

**Talk: Air Treatment Costs**

Speaker: Mrs. Feuker

Que: What are the boundaries for the choice of the tunnel supply temperature?

A:

Que: Should we install air dryer for keeping the supply temperature low?

A:

Que: What is the suggested supply temperature?

A:

**Talk: Air Conditioning SASE Tunnel**

Speaker: Mrs. Schulz

Que: Is the interface between the tunnel ventilation (WP-34) and the fine regulation of the temperature (WP-71) the preferred solution?

A:

Que: Is it necessary to cool and heat the tunnel air for the fine regulation.

A:

Que: Would a heater fulfil the requirements for the fine regulation?

A:

## **Talk: Tunnel Safety Concept**

Speaker: Mr. Hoppe

Que: Guarantees the safety concept the escape of personnel?

A:

Que: Is it possible to delete the air duct for smoke removal?

A:

## **General Questions**

Q: How is the general valuation of the tunnel VAC design?

A:

Que: Is the due point temperature a severe requirement?

A:

Q: How precise must be the temperature regulation of the AHU and water cooling systems? Over or under shoot, time dependence

A:

Q: What peak deviations are tolerable?

A: