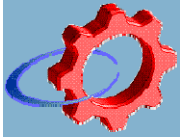


Controls, Safety and Engineering Databases

CERN Experimental Areas Access Systems for 2007 and beyond

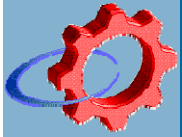
Presented by
Rui Nunes
TS-CSE-AAS



Controls, Safety and Engineering Databases

Topics

- Introduction
 - Types of Access Systems
- Problems in 2006
 - North area interruption 3/11/2006
- Why they will not happen in 2007
- The new (S)PS Experimental Areas Access System
 - Ongoing project

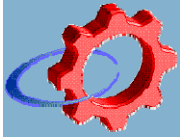


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Introduction – Projects organisation

- TS-CSE-AAS
 - PS : R. Bonzano, D. Chapuis
 - SPS : M. Grill, R. Villard, D. Vaxelaire
- (S)PS Experimental Areas project
 - CO: H. Nissen, F. Havart
 - Ind. Sup : R. Mermillon

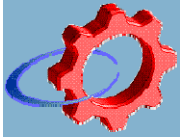




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Types of Access Systems

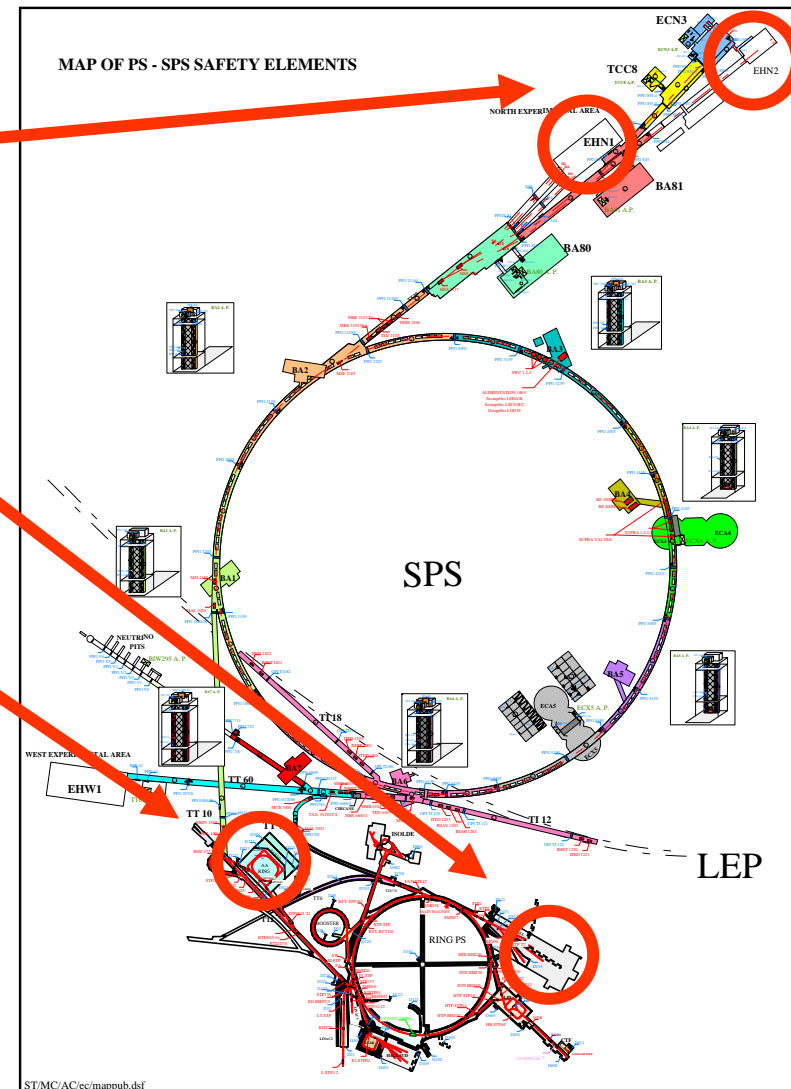
- SUSI
 - Site entry gates & road barriers, building entrance, etc...
- ZORA Primary
 - Access to areas classified as Primary by RP
 - PS machines, SPS machine
 - Overlap with Experimental Areas in target areas
 - (e.g. TCC2, East Hall, ISOLDE, etc...)
- ZORA Secondary
 - Access to areas classified as Secondary by RP
 - Corresponds to mostly Exp Areas (with exception of targets)
- This presentation is about **ZORA Secondary Areas**

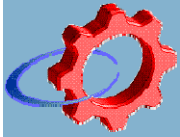


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Existing systems

- SPS Zone North
- PS East Hall
- PS AD

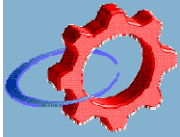




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Problems in 2006

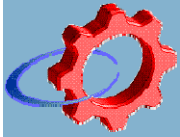
- One major problem in Zone North
 - Friday 3/11/2006
 - Effects
 - not possible to close the zone in COMPASS
 - Solution only found on Monday with intervention of contractor staff
 - Causes
 - HP machine interfacing the safety hardware and the supervision software was caught in a infinite loop
 - Procedure includes rebooting the machine but this time no success
 - Solution
 - Software intervention necessary to change timeouts to break the loop
 - Intervention was only possible on Monday with contractor staff
 - Result
 - No beam for compass over this weekend
- Minor problems in PS
 - AD - 19/11 last weekend of beam – HP machine crashed and replaced
 - East Hall : problems with Access DB due to separation of TN and GPN in CSA



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Actions & Why this will not happen again in 2007

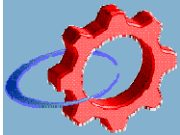
- Zone North
 - Migration of FactoryLink Supervision to Windows
 - Machine that interfaces will be removed
 - Interface with CESAR over a PLC S7 (FESA)
- PS AD & East Hall
 - Complete replacement of the Access Control system during 2007 shutdown
 - PPE (doors) shall be recuperated dismantled from the SPS Zone West, as will all the locks
 - The control system shall be completely replaced



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New (S)PS Access System

- Main features
 - NO ACCESS CARD necessary to access zones
 - Option for access card validation to close/open the zone
 - Industrial touch panel interface at access point
 - Key distributor for Key Access
 - Reconfiguration of the chains/zones via a pin matrix
 - Supervision possible via TIM
- Possible to extend to SPS (resources allowing)
 - Same philosophy of SPS
 - Based on recommendations to UNIFY the procedures to access in Exp areas
- Documentation available
 - EDMS URD : 476292, SRD : 478678, ADD : 503535
 - presented in PS/SPS days in January 2006

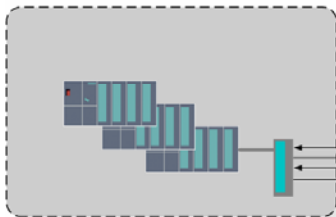


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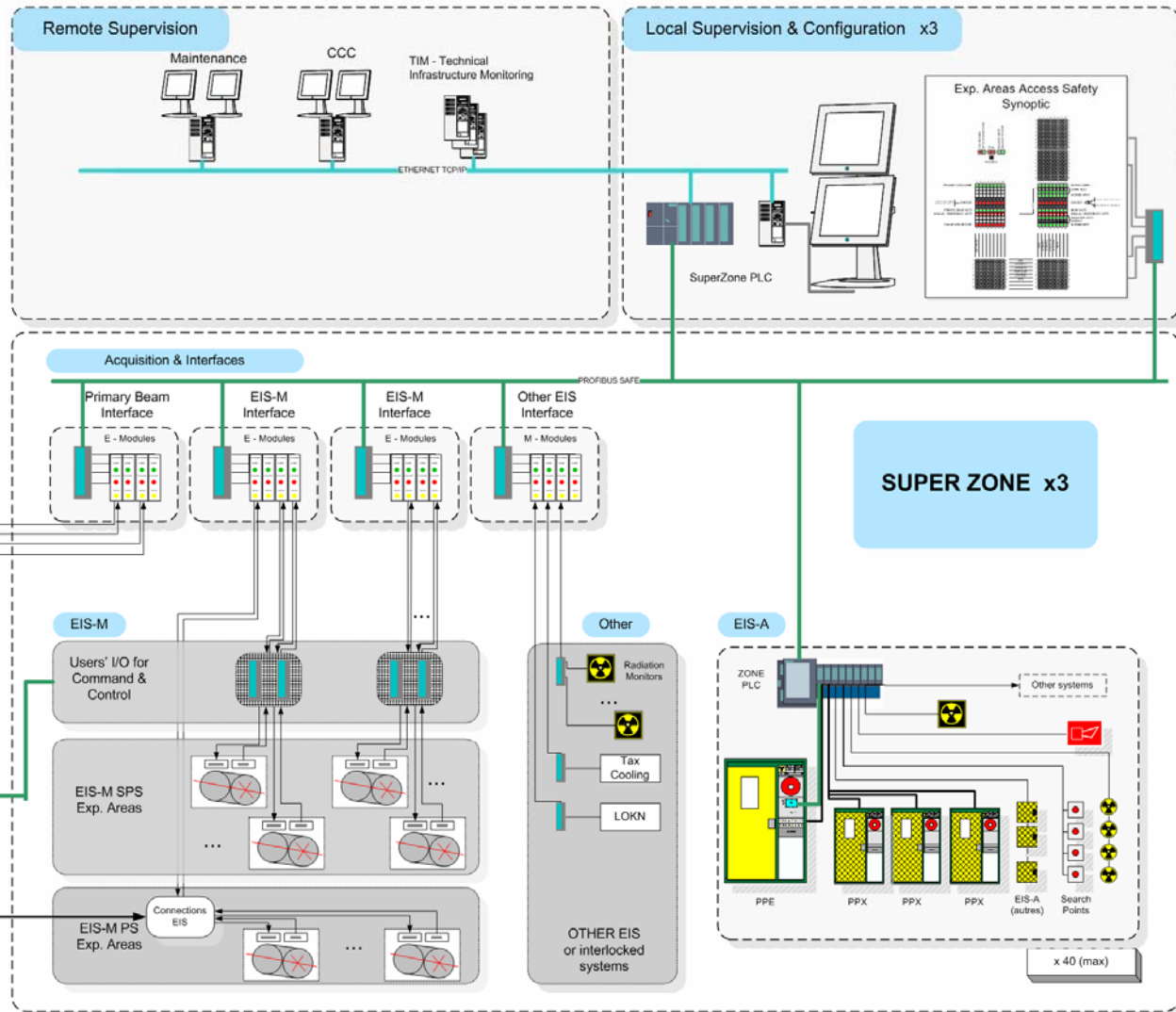
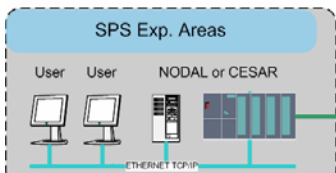


(S)PS Experimental Areas Access & Safety System

(S)PS Primary Access Safety Systems



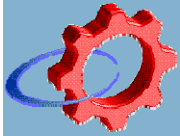
(S)PS Experimental Areas Beam Control system



24 Jan 2007

ATC/ABOC Days

Drawing by R. Nunes & Access team

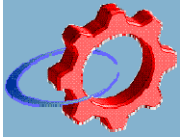


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(S)PS Experimental Areas Access System

- Status of Zone
- Touch Panel with Info
- SPS-type lock
- Validate CLOSE/OPEN
- RP veto KEY
- Beam Stopper Command
- Key distributor



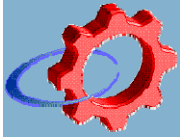


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(S)PS Experimental Areas Access System

- Status of chain/zones
- Manual Vetos
 - (or MCR vetos for the PS)
- Reconfiguration matrixes
 - EIS-Access
 - EIS-Faisceau

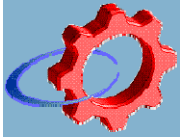




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Conclusion

- Positive 2006 summary
 - No major problems despite strain in resources
 - Except one weekend for Zone North
- Modifications for North Area
 - Migration of Supervision system to Windows should solve interface problems
- New PS Exp Areas System to be implemented in 2007
 - SPS upgrade necessary in the near future but subject to financial resource constraints



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Thank you for your attention

Questions?

(hopefully answers too.....)