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Bromine Based Wet Mercury Abatement - Progress achieved with Scrubber Additives

Prof. h.c. Dr.-Ing. Bernhard W. Vosteen

MEC 6 - Mercury Emissions from Coal
6th International Experts Workshop
April 22-24, 2009, City Hotel, Ljubljana (Slovenia),

Agenda

- **CaBr₂ to Coal and PRAVO to Scrubber**
- **CaBr₂ to Coal and PAC to Scrubber**

KNX™

**is a registered trade mark of ALSTOM Power – ECS,
standing for the bromine based mercury oxidation
technology of Vosteen Consulting**

PRAVO®

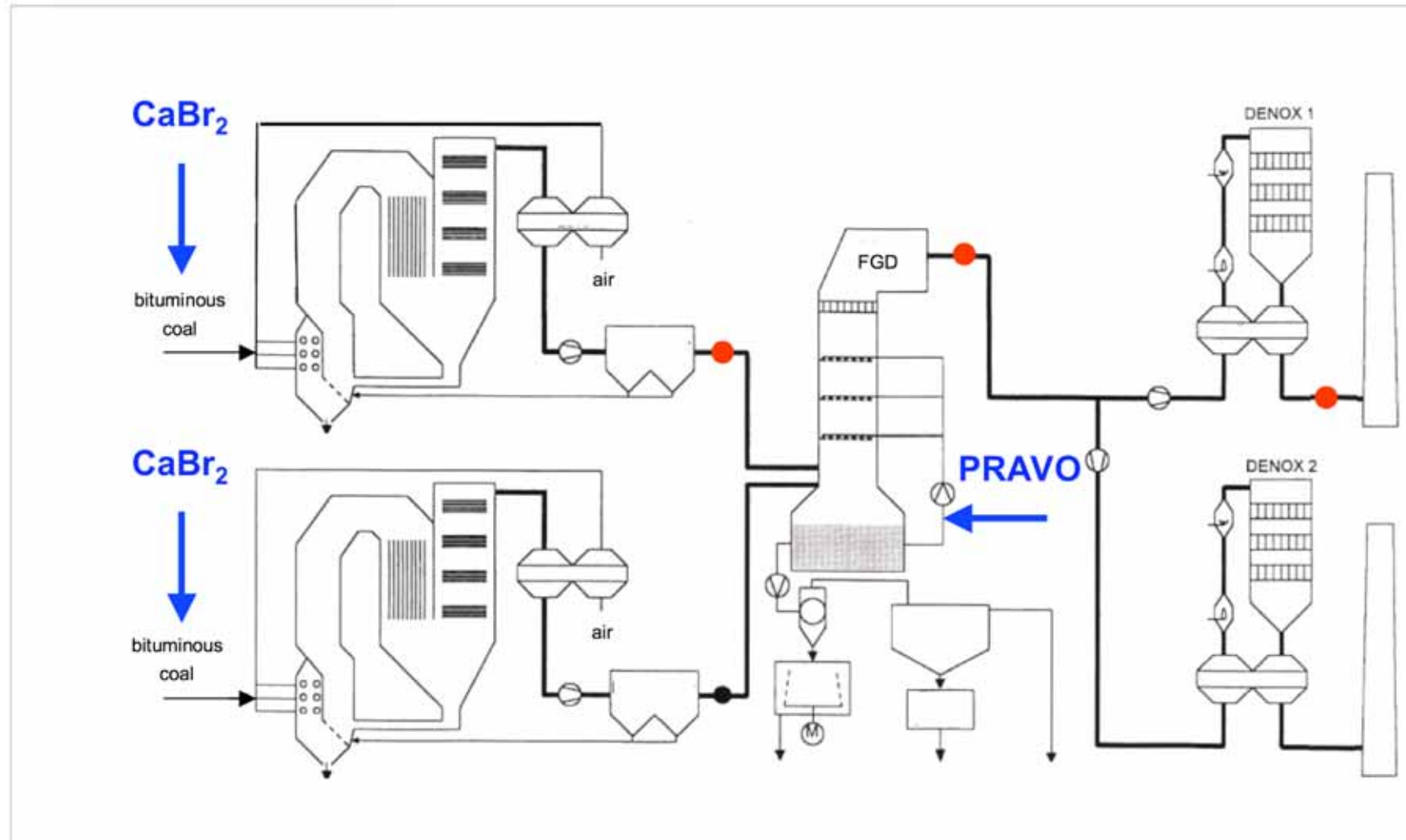
**is a registered trade mark of Vosteen Consulting,
standing for the inorganic precipitation agent
containing polysulfide, thiosulfate and bromide**

Patents on the combined application of KNX and PRAVO are pending

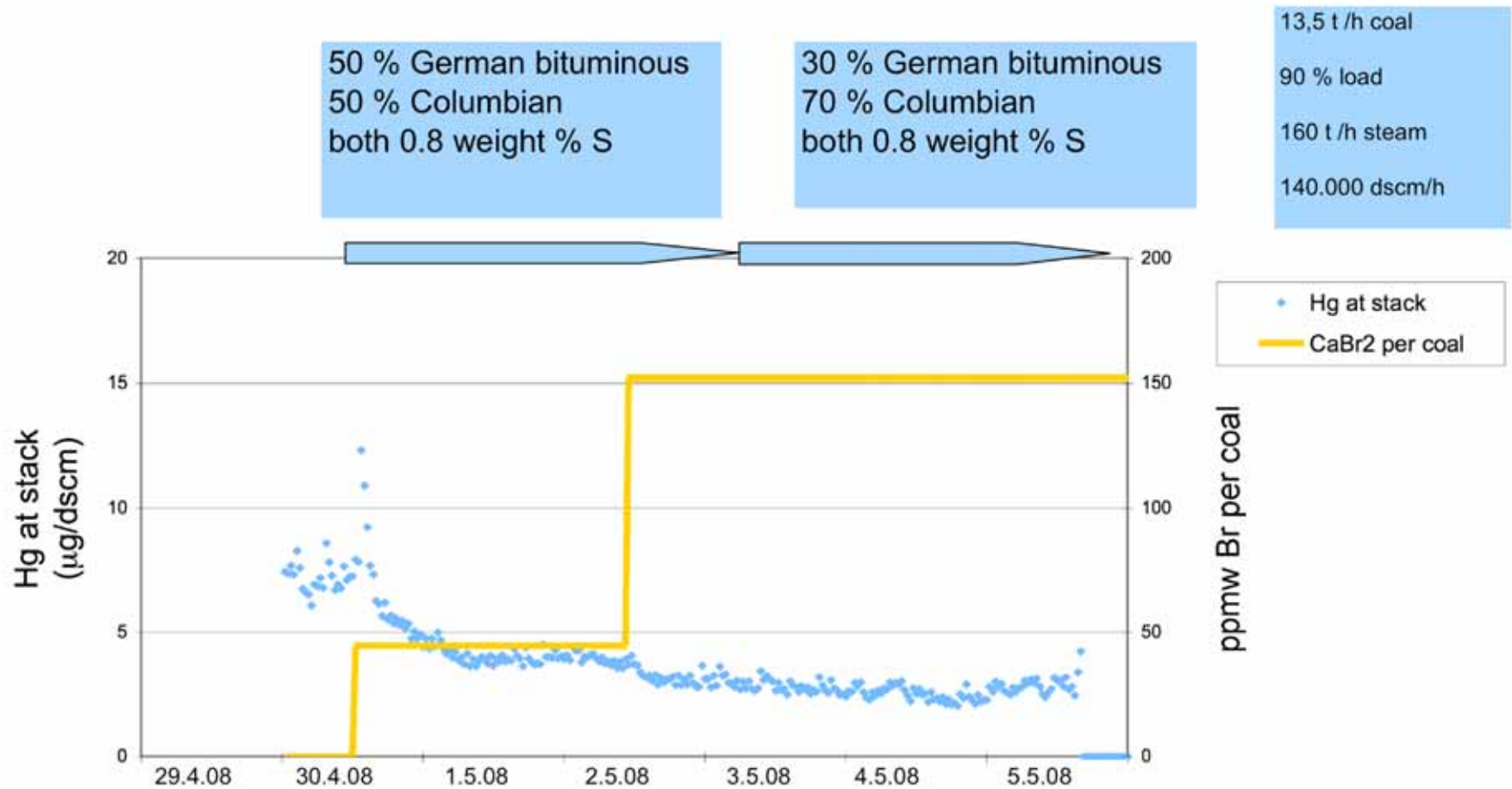
Enhanced Mercury Abatement

CaBr₂ to Coal and PRAVO to Scrubber

(Boiler N230, 100 MW_{therm}, CURRENTA, Tests in 2008)



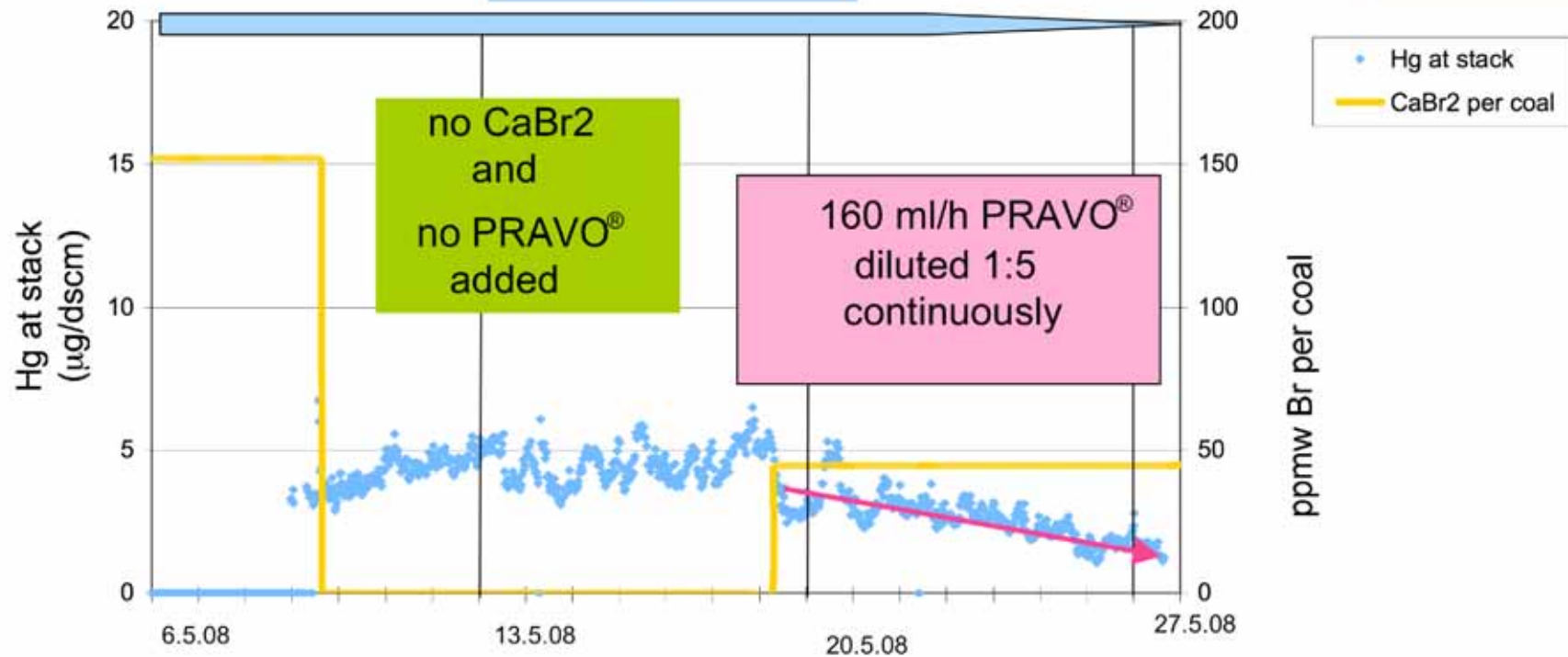
Mercury emissions with CaBr₂ addition to coal only (no PRAVO[®] added)



Mercury emissions with CaBr₂ addition to coal and PRAVO[®] addition to WFGD

50 % German bituminous
50 % Columbian
both 0.8 weight % S

13,5 t /h coal
90 % load
160 t /h steam
140.000 dscm/h



Agenda

- **CaBr₂ to Coal and PRAVO to Scrubber**
- **CaBr₂ to Coal and PAC to Scrubber**

Co-operation to combine two established technologies

**„CaBr₂ to Coal and PAC to WFGD
with Selective Mercury Precipitation in WWT”**

Large scale demonstrations in 2009

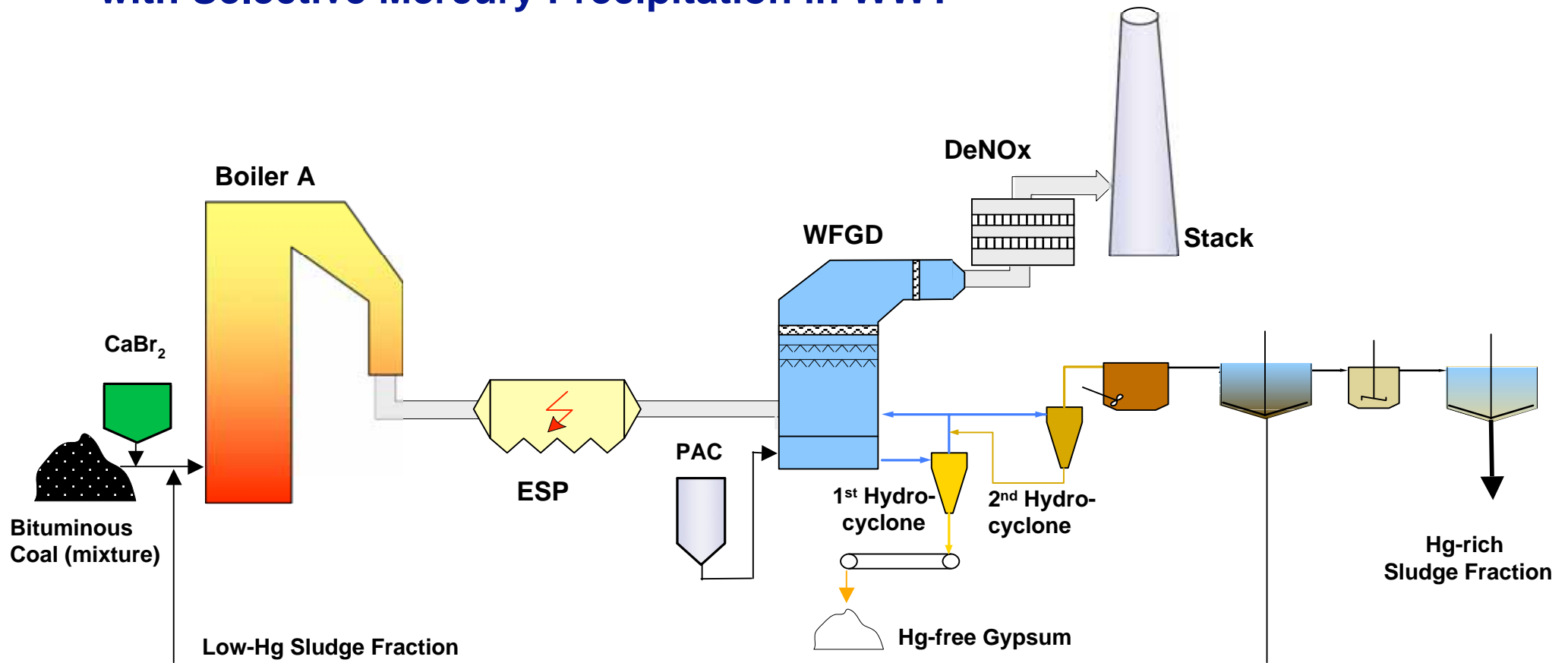
at two Evonik power plants of different design



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Enhanced Mercury Abatement

CaBr₂ to Coal and PAC to WFGD with Selective Mercury Precipitation in WWT



Enhanced Mercury Abatement CaBr_2 to Coal and PAC to WFGD with Selective Mercury Precipitation in WWT

