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GK WILLIAMS
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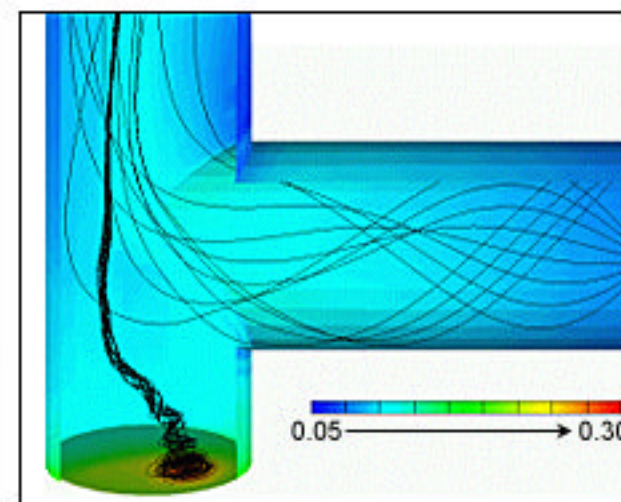Cooperative Research Centre for
CLEAN POWER FROM LIGNITE

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Aerial view of Alcoa's Kwinana
refinery in Western Australia

Alcoa World Alumina Australia is the world's largest producer of alumina, operating three refineries and associated bauxite mines in Western Australia, all within 120 km of Perth.

Computational fluid dynamics modelling is used within Alcoa for the design and optimisation of process equipment associated with the Bayer process for alumina refining.

Computational fluid dynamics
prediction of the flow patterns
and solids concentration (v/v)
in a slurry pipeline tee-junction.

0.05 ➔ 0.30

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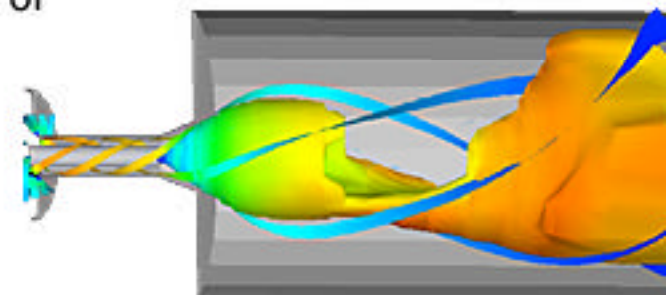### Cooperative Research Centre for
CLEAN POWER FROM LIGNITE

Participants in the CRC Clean Power include Loy Yang Power, Hazelwood Power, Yallourn Energy, Flinders Power, Geo-Eng Australia, Monash University, the University of Adelaide, Swinburne University of Technology, CSIRO Minerals, the Victorian Department of State Development and Strategic Industry Research Foundation. The Centre has a budget of about $47 million to extend and apply the work of its predecessor in developing an advanced combustion system which will increase by about a half the amount of power able to be generated from brown coal while reducing greenhouse gas emissions. The Centre will also develop ways to improve the operation of existing power stations.