

## Visualized ES&H in Fab -Investigation for Energy-Saving

*Authors: Hiromi Yajima, Toshiba; Michio Honma, NEC Electronics; Jyunichi Aoyama, Sony Corporation; Testu Tomine, Seiko-Epson*

### Social Environment

In semiconductor industry, it corresponded to the global needs, such as Kyoto Protocol, which went into effect, as protection against the climate change, and the leverage to the cure against PFC emission reduction has been performed. On the other hand, energy saving had been behind at individual cures, without introduction of facilities efficient apparatus in each factories. We have to move to the cure against energy saving from now on.

### JEITA Activities in the Semiconductor Industry

In JEITA, new collaboration is expected as energy-saving. STRJ CROSS CUT WG was formed and the recommendations to energy-saving implementation have been summarized.

### Needs @ the Semiconductor Industry

Since the subject of power consumption has shifted to production equipment from facilities with expansion of the diameter of a wafer, the energy saving of production equipment is needed in semiconductor fab. Moreover, in order that the consumption energy of a fab may be dependent on the correlation of Facilities, Production Equipment, and Operations, the energy saving which carried out whole optimization is needed.

### Proposals to the Semiconductor Industry Activities

#### (1)Organization

Organized installation of the industry center for information acquisition of energy-saving example, development of energy-saving best-known methods, and etc are essential.

#### (2)Technologies

Energy-saving items extraction is attained by the grasp of real time consumption energy and the analysis of time jitter & constant portion of and each part in facilities & equipment main parts. In analysis, since the power consumption at the time of standby and processing on equipment is equivalent, the energy saving according to production fluctuation timing is needed.

### Conclusion

The collaboration with Equipment Suppliers, Facilities Suppliers, and Device Manufacturers is important for energy-saving activities.

The scheme for information visibility is necessary.