

## Industrial park experiments with alternative energy

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As one enters the state of Rajasthan from Delhi, one comes upon Nimrana, home of the 15th century fort palace for which it is named. On the other side of the highway is an emerging industrial area. Factories in these areas are coming together to create a shared energy center that will encourage development and foreign investment by offering more efficient sources of power.

The plan for the Nimrana shared energy center has been adopted under the early bird scheme for the Delhi-Mumbai Industrial Corridor. This region was launched in this exciting direction in 2007, when the Indian government announced plans to establish a dedicated freight corridor covering approximately 1,500km between Delhi and Mumbai.

In anticipation of the DMIC projects in July 2006, Rajasthan State Industrial Development & Investment Corp. partnered with JETRO to develop an exclusive Japan investment park in Nimrana.

However, there have proven to be infrastructure hurdles. So 10 Japanese companies participating in the Nimrana investment park planned to use the privately generated power for regular use and only one company planned to use the public grid in the future. Indeed, existing industrial users in other parts of Nimrana reported huge unpredictable outages for about six hours a day.

Power generation costs were also high using diesel generators. So a solution was needed to overcome the problems of unstable power from the grid and the high cost of the environment-unfriendly diesel generators. The shared energy center presented solutions in October, envisioning the use of



gas turbine generators fueled by natural gas.

Existing generators will be used concurrently while an advanced operating control system will coordinate optimum power supply from the different channels. The plant will also be linked to the transformer substation of the public grid so that different companies will be able to draw power as needed.

However, the global economic crisis has created future

uncertainty in terms of attracting new investment and also in terms of determining the exact power needs of existing tenants. Diesel generators purchased by companies that have already started operations in Nimrana are now in surplus.

The solution that we are considering is to link the existing diesel generators through a common 33kw bus. However, the diesel generators bought by the different companies have different capacities. So we needed solutions for connecting dissimilar-capacity diesel generators.

The first phase is an optimal power supply system using the diesel generators, and the final phase will be a system when connected to the gas turbine and commercial grid. The expected benefits of high-quality, economical and eco-friendly power in areas of unstable commercial power supply will contribute to the development of industry appropriate to Nimrana Industrial park.