

## Wind Turbines

### BACKGROUND

The drive to renewable energy continues to gather pace worldwide. A significant portion of this energy production will come from a mix of onshore and offshore wind turbine installations.

The scope and pace of development is staggering. For instance, in the United States alone, from a mere 2.53GW of energy production from wind sources in the year 2000, the USA is projected to increase its wind energy production to 113.43 GW by 2020 and 224GW by 2031. The European experience is also dynamic and projections for 2020 indicate wind energy production exceeding 200GW.

This strong growth rate is expected to involve the construction of larger turbines, a portion of which will be built offshore. This presents significant opportunities for helicopter support companies who can provide efficient and safe services for wind turbine support, but it also presents challenges. For instance, GE Renewable Energy recently announced plans for a 12MW turbine that would reach over 700 feet, a height well within helicopter operating areas.

Operations in direct support of these facilities, as well as operations that transit these areas, must be protected. This requires meaningful and consistent regulation for height notification, new and temporary structure reporting, appropriate contrast markings and sufficient obstacle lighting to reduce the possibility of CFIT accidents associated with such facilities.

Lighting must be standardized, it must clearly illuminate obstacles and helicopter operating areas, and it must be compatible with both day and night operations for transiting aircraft and aircraft operating in close vicinity.

### POSITION

IFALPA supports the opportunities presented by the growth of the wind turbine industry. However, regulation must be uniform, meaningful and consistent with best practices. Wind turbine design should consider the following aspects:

- Clear illumination of obstacles and operating areas, including the turbine and full blade swathe area during helicopter operations in degraded visual conditions;
- Compatibility with Night Vision Imaging Systems (NVIS) for operating to and near wind turbines for the purposes of critical emergency Helicopter operations and routine wind turbines maintenance in degraded visual conditions;
- Appropriate contrast markings that make the facilities easy to identify and ensure visual clearance in normal visual conditions;
- Lighting from below;
- Existing obstacle lighting requirements;
- Redundancy for lights.

In addition, reporting requirements that impose restrictions on operations should be clear and reliable and promulgated in the normal manner.