Safety is usually the prime concern for people living nearby when an LNG terminal is proposed. But nuisance factors such as light and noise are often brought up in community hearings on LNG facilities, says Exxon Mobil spokesman Bob Davis, who recently attended a federal hearing for Exxon’s proposed Golden Pass terminal at Sabine Pass, Texas (WGI Jan.21,p8). It would be in a shipping channel, and Exxon would aim lights away from residential areas, he said.

“In general, we’re finding that our clients are building plants in areas where local regulatory authorities, or citizens and residents, are concerned about the environmental impact and nuisance effect of night-lighting,” says Kellogg, Brown & Root chief electrical engineer Shan Griffith. Choosing the right type and placement of light is both an art and a science. “Sometimes the goals of optimum ‘dark skies’ lighting aren’t compatible with optimal efficiency. It takes a balance,” he explains.

DKRW’s Kemp says his approach — designed to match light output from the University of Tucson, in the mid-range of the Tucson standards — raises capital costs for lighting by 5% and reduces long-term operating costs by 25%. Bechtel’s designs, which emphasize brighter, better-focused light, raise initial costs by up to 25%, but lower energy costs by 40%. Savings in both cases stem from longer life for more-efficient fixtures and lower maintenance costs. Security is actually increased by turning lights on only when motion is detected, Kemp said. “Perimeter lighting is useless because people become used to it. If the light comes on, pow!, you notice it.”

Engineers agree that communities with regulations in place before a plant is built will have a better chance of limiting light pollution. Support from local officials is key. Some Mexican observatories have been rendered useless by encroaching glow from booming cities, but the “legal culture doesn’t really exist in Mexico” to enforce such regulations, even if they existed, according to Antonio Sanchez-Ibarra, astronomer at the University of Sonora in Hermosillo. Nonetheless, Mexican observatories are starting to talk about promoting light regulations, he says. “The new government in Sonora has a more progressive attitude. They believe development, art and science are needed in the state.”

“One of the things I’d like to see is consistent standards, so that it’s not such a task each time to meet what the requirements are. If requirements were consistent costs would be easier to predict, and then all the contractors would be bidding on the same basis,” KBR’s Griffith says.

Code developers could be more effective if they brought in engineers early in the process. “We play in these areas. It’s more than a living. It’s something we roll around in our minds while driving,” says Bechtel’s Paschal.

By Lucy Hornby in New York