Veterinary Report (Lime Down)

The proposed large-scale solar development adjacent to equine grazing presents a material risk of clinically significant respiratory compromise in horses bred and managed for elite Thoroughbred performance. Construction activity will generate respirable airborne particulate matter, including dust and crystalline silica arising from soil disturbance, excavation, and heavy vehicular movement. In high-value equine populations, even subclinical lower airway inflammation is clinically relevant, with well-established effects on performance and future racing potential.

Peer-reviewed evidence demonstrates that inhalation of respirable dust induces neutrophilic airway inflammation, mucus accumulation, and reduced pulmonary function, with severity closely associated with exposure levels (Couëtil et al., 2016; Ivester et al., 2014). Importantly, even short-term exposure in susceptible horses may result in persistent airway inflammation, airway sensitisation, and sustained impairment of respiratory function, with potential for long-term or irreversible effects on athletic capacity. Given the horse's high minute ventilation, particularly during exercise, inhaled particulate dose is substantially amplified compared to humans.

From a reproductive perspective, pregnant mares represent a particularly sensitive cohort. Maternal respiratory compromise and systemic inflammation associated with inhalation of respirable dust may adversely affect oxygen delivery and physiological stability during gestation. In late pregnancy, where fetal growth and oxygen demand are maximal, even mild reductions in pulmonary function or chronic low-grade inflammation may have implications for fetal development and neonatal viability. Additionally, environmental stressors may influence endocrine responses in pregnant mares, with potential downstream effects on foal health and early development. While such effects may be subclinical, they are of clear relevance in high-value breeding populations where optimal maternal and foal outcomes are critical.

The potential for avian mortality associated with large-scale solar installations also raises secondary biosecurity considerations in equine environments. The presence of bird carcasses within grazing land may pose a risk to horses through contamination of pasture with pathogenic organisms, including Clostridium botulinum, which is recognised as a cause of botulism in horses following ingestion of contaminated forage or carrion material. Horses are highly susceptible to botulinum toxin, and even low-level exposure can result in severe and potentially fatal neuromuscular disease. From a veterinary perspective, the introduction of carcass material into grazing systems therefore represents an additional, avoidable risk to equine health.

Sustained exposure to construction-related particulate matter, together with potential biosecurity risks arising from carcass contamination of grazing land—particularly in downwind paddocks and training environments—represents a predictable and avoidable risk to equine respiratory health, reproductive outcomes, performance, and breeding value. Such impacts, even where subtle, are of clear clinical relevance and carry material welfare and economic consequences.

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