

**EVOLVING SCALES AND SELECTION CRITERIA FOR DISPERSION MODEL STUDIES****J.I. Walker**, M.C. Murphy, M. Scaplen*Jacques Whitford Environment Limited, Halifax, Canada*

Mathematical dispersion models are rooted in short-term episodic assessment, and focus on either the catastrophic event or on compliance with short-term standards. Industry was generally safely in compliance with long-term standards provided that short-term standards were met. Several factors such as long-term health considerations have caused a shift to consideration of chronic impacts, and new standards are placing a greater need on assessment methods that are based on longer time intervals, and on greater spatial scales. This paper demonstrates a comparative study using three of the major evolutionary dispersion models - ISC3, AERMOD and CALPUFF. The paper shows how the models converge and diverge at different scales, both spatially and temporally. A novel animation approach is used to compare the models and provides invaluable insight and guidance into the selection of the right model.