143n Environmental Challenges and Processes for Early Research & Development – a Case Study *Christopher N. Nilsen, Edward Nowak, Kirk Sorgi, and Xini Zhang*

Johnson & Johnson has committed through its famous Credo to protect the environment. Using a multi-faceted approach, we are constantly assessing our capacity to reduce emissions and minimize waste in a manner that exceeds current federal and state standards. Although the amounts of chemicals used in manufacturing are greater than those used in Research & Development, the breadth of chemicals used is much greater in R&D which can make environmental modeling more difficult.

A research and development facility used to prepare APIs for use in First-In-Human clinical trials in the State of New Jersey will be used as a case study. Processes such as Pilot Plant permitting, internal and external environmental assessment, and engineering controls will be discussed. In addition, examples will be given to show how we have been reducing waste by as much as 90% on certain projects and maintaining emissions at less than 10% of our total permitted amount, thus helping to achieve our company's Credo vision.