

5<sup>th</sup> Annual Water and Sanitation Workshop: *Arctic Wastewater Treatment and Disposal: current status and research needs*

**Design Standards Discussion Questions (11:30am facilitated discussion session):**

- 1) Do design standards improve lagoon performance?
  - a. Should the design approach be different in the future?
  - b. Does making lagoons larger improve performance? What does this mean for operability?
  - c. Given the data in hand, can we truly even answer this question?
- 2) How do we move from local perception to reality with lagoon impacts?
- 3) What data is needed to evaluate the efficacy of the new design standards?
- 4) What are the O&M issues that negatively impact lagoon performance?

### **3:30 pm Session Breakout group questions:**

- 1) (40 minutes) Lagoons are the preferred treatment and disposal methods in the arctic due to low operational costs. Increased construction costs are a concern from the funder's perspective. While lagoons are a concern from a local perspective.
  - a. If **regulations** were not an issue what would be the solution to the wastewater challenges in a community that is 90% served with a piped system? You should take into account all stake holders interests in your solutions. Don't forget to address the 10% unserved.
  - b. If **operational costs** were not an issue what would be the solution to the wastewater challenges in a community that is 90% served with a piped system? You should take into account all stake holders interests in your solutions. Don't forget to address the 10% unserved.
  
- 2) (20 minutes) Outline a strategy for addressing research and development needs for assessing current conditions and improving best practices.
  - a. What information gaps exist?
  - b. What data are needed to fill these gaps and assess these conditions/improve best practices?