## **CTAM Practice Exercise Analysis of Competing Hypothesis Matrix and Worksheet**

Analysis of Competing Hypotheses (ACH) breaks a complex problem down into its component parts. You fill in a matrix with a complete set of hypotheses across the top row (i.e., alternative explanations or outcomes), and supporting evidence and arguments down the column underneath the associated hypothesis. Evidence or arguments can support or refute the hypotheses, and your rating of +1 or 0 can help you see how each item of evidence or argument supports or refutes each hypothesis.

## Steps for ACH:

- Generate hypotheses from traffic received
- Add hypotheses to the top row of the matrix (no more than 5)
- List significant evidence down column of the associated hypothesis (no more than 10 per column)
- Refine the matrix as needed based on any new information
- Enter +1 for strong and 0 for not relevant for each piece of evidence under each hypothesis
- Review completed matrix and rank hypotheses by weakness of inconsistent evidence
- Perform a sanity check

|                       | Hypothesis 1 | Hypothesis 2 | Hypothesis 3 | Hypothesis 4 | Hypothesis 5 |
|-----------------------|--------------|--------------|--------------|--------------|--------------|
| Evidence 1            |              |              |              |              |              |
| Evidence 2            |              |              |              |              |              |
| Evidence 3            |              |              |              |              |              |
| Evidence 4            |              |              |              |              |              |
| Evidence 5            |              |              |              |              |              |
| Evidence 6            |              |              |              |              |              |
| Evidence 7            |              |              |              |              |              |
| Evidence 8            |              |              |              |              |              |
| Evidence 9            |              |              |              |              |              |
| Evidence 10           |              |              |              |              |              |
| Total number of "+ls" |              |              |              |              |              |