



State Safety Programme (SSP) Workshop

**Georgetown, Guyana
10 to 14 July 2017**

PHASES 3 AND 4 – CASE STUDY N° 08

**Safety performance indicators (SPIs) and
target/alert level settings**

A. OBJECTIVES:

Guide participants in the establishment of high- and lower-consequence indicators and their respective target and alert levels.

B. GENERAL INSTRUCTIONS:

1. Read the instructions provided for the case study and designate a secretary and team leader in each group.
2. Exchange ideas and concepts, and reach consensus on the assigned case based on the information provided.
3. Once the above has been completed, the team leader or a designated participant shall present the results of their work.

C. CASE STUDY N° 8: ESTABLISHMENT OF HIGH- AND LOWER-CONSEQUENCE INDICATORS AND SETTING OF THEIR RESPECTIVE TARGET AND ALERT LEVELS

Based on your experience in your field of work, describe and calculate 5 high-consequence indicators and 5 lower-consequence indicators, selecting those you consider to be the most critical. Then calculate the associated target and alert levels using the data provided. Use the data contained in the following table to determine the indicators, targets and alerts:

HIGH-CONSEQUENCE INDICATORS				
Description of indicator (describe the parameter, e.g., rates, failures, reports, etc.) (describe the period in which the indicator will be calculated, e.g., monthly, quarterly, annual, and number of departures) (describe the number of departures for which you wish to calculate the SPI - frequency)	Total number of occurrences or events (define the total number of occurrences or events during the period foreseen in the description of the SPI)	SPIs (calculate the SPI using the formula)	Targets (calculate the target with a 10% improvement)	Alert levels (calculate alerts based on 0.20 SD)

Use the following formula for calculating high-consequence SPIs:

$$\text{Rate (Acc x million of departures)} = \frac{\text{\# occurrences}}{\text{\# total departures (in a selected period)}} \times \text{frequency}$$

Example: In a period of one year, 2 accidents have occurred per 1.900.000 departures. We want to calculate the rate per 1.000.000 departures (frequency)

$$\text{Rate (Acc x million of departures)} = \frac{2 \text{ accidents}}{1.900.000} \times 1.000.000 = \mathbf{1.05}$$

LOWER-CONSEQUENCE INDICATORS				
Description of indicator (describe the parameter, e.g., rates, failures, reports, etc.) (describe the period in which the indicator will be calculated, e.g., monthly, quarterly, annual, and number of departures) (describe the number of departures for which you wish to calculate the SPI - frequency)	Total number of occurrences or events (define the total number of occurrences or events during the period foreseen in the description of the SPI)	SPIs (calculate the SPI using the formula)	Targets (calculate the target with a 5% improvement)	Alert levels (calculate alerts based on 0.10 SD)

If real data is not available, simulate the data.

REFERENCE MATERIAL

- ✓ Annex 13, Attachment C, list of examples of serious incidents
- ✓ Annex 19
- ✓ Doc 9859, Third edition, Appendix 4 to Chapter 4

- ✓ SRVSOP PEL, OPS and AIR procedures
- ✓ SRVSOP Advisory circulars

D. ESTIMATED TIME:

It is expected that groups will take 60 minutes to complete the case study and 60 minutes to present their results (10 minutes per group).

E. EXPECTED RESULTS:

The work must be prepared and presented in digital format:

1. In general terms, it is expected that each group will submit in a pen drive or external USB memory a PPT presentation not to exceed 10 slides on the items requested in the exercise, within the time allotted.
2. Following the presentation by the group, the participants of the workshop will have an open discussion to provide feedback.