**Overview of Distribution Process Analysis**

This outlines the method for calculating the distribution of TEU to various Average Warehouse Locations (AWLs) and evaluates the transport logistics, including the volume to be distributed to each AWL for Import and Export separately.

**1. Data on Container Weights**

* We have the recorded weights for the AWLs which are essential for calculating the volume and distribution of TEU.
  + **Weight for point 1: 28 %**
  + **Weight for point 2: 38 %**
  + **Weight for point 3: 17 %**
  + **Weight for point 4: 5 %**
  + **Weight for Hamad Port: 12 %**

**2. Calculation of Container Volumes**

* **Objective:** Determine the required number of TEU for delivery at each FDP based on their weights.

**2.1 Distribution Proportions between Hamad and Al-Ruwais Ports**

· **IMPORT**

o **Total TEU:** The combined count from both ports is 617,800, where Hamad Port accounts for 574,572 TEU, and Al-Ruwais Port for 43,228 TEU.

o **Proportion Calculation:**

* **Hamad Port:** 574,572 / 617,800 ≈ 93% of total volume.
* **Al-Ruwais Port:** 43,228 / 617,800 ≈ 7% of total volume.

· **EXPORT**

o **Total TEU:** The combined count from both ports is 432,280, where Hamad Port accounts for 389,476 TEU, and Al-Ruwais Port for 42,804 TEU.

o **Proportion Calculation:**

* **Hamad Port:** 389,476/432,280 ≈ 90% of total volume.
* **Al-Ruwais Port:** 42,804 / 432,280 ≈ 10% of total volume.

**2.2 Annual Container Movement**

* Calculate the number of TEU handled per year, focusing on movements to and from the sea ports.
* For exports, the total number of TEU is equated directly to the number of export TEU.

**2.2.1** **Container Allocation for KSA-Qatar Trade**

This section is calculating the % of TEUs that are involved in Qatar-KSA trade and the % are being validated by Peter Kelly. These containers will be going from/to Hamad Port from/to KSA.

· **IMPORT** (i.e., coming from KSA)

* 3% of 617,800 import TEUs ≈ 18,535 (approx.)

· **EXPORT** (i.e., going to KSA)

* 2% of 432,280 export TEUs ≈ 8,645 (approx.)

**2.2.2** **Detailed Container Allocation to AWLs**

· **Total Import TEUs: 617,800**

· TEUs for Each Point Based on Total Imports (617,800 TEUs):

o **Point 1:** 172,984 TEUs

o **Point 2:** 234,764 TEUs

o **Point 3:** 105,026 TEUs

o **Point 4:** 30,890 TEUs

o **Hamad Port:** 74,136 TEUs

· Distribution of Imports from Each Port to each point based on their weights:

o Distribution for Imports:

§ **From Hamad Port (93%) and Al-Ruwais Port (7%)**

§ **Total Import TEU:** 617,800 TEUs

o **Point 1:**

§ From Hamad Port: 160,875 TEUs

§ From Al-Ruwais Port: 12,109 TEUs

o **Point 2:**

§ From Hamad Port: 218,331 TEUs

§ From Al-Ruwais Port: 16,433 TEUs

o **Point 3:**

§ From Hamad Port: 97,674 TEUs

§ From Al-Ruwais Port: 7,352 TEUs

o **Point 4:**

§ From Hamad Port: 28,728 TEUs

§ From Al-Ruwais Port: 2,162 TEUs

o **Hamad Port:**

§ From Hamad Port: 68,946 TEUs

§ From Al-Ruwais Port: 5,190 TEUs

**2.2.3 Calculation for Exports TEUs**

· **Total Export TEUs: 432,280**

· TEUs for Each Point Based on Total Exports (432,280 TEUs):

o **Point 1:** 121,038 TEUs

o **Point 2:** 164,266 TEUs

o **Point 3:** 73,488 TEUs

o **Point 4:** 21,614 TEUs

o **Hamad Port:** 51,874 TEUs

· Distribution of Exports to Each Point to each port based on their weights:

o **Point 1:**

§ To Hamad Port: 108,935 TEUs

§ To Al-Ruwais Port: 12,104 TEUs

o **Point 2:**

§ To Hamad Port: 147,840 TEUs

§ To Al-Ruwais Port: 16,427 TEUs

o **Point 3:**

§ To Hamad Port: 66,139 TEUs

§ To Al-Ruwais Port: 7,349 TEUs

o **Point 4:**

§ To Hamad Port: 19,453 TEUs

§ To Al-Ruwais Port: 2,161 TEUs

o **Hamad Port:**

§ To Hamad Port: 46,686 TEUs

§ To Al-Ruwais Port: 5,187 TEUs