REPUBLIC OF TURKEY
ENERGY MARKET
REGULATORY AUTHORITY

CAPEX review – Case Study session

Energy Market Regulatory Authority, Turkey

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ERRA Natural Gas Markets and Economic Regulation Committee
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General outline of the elements of allowed revenues

Tender Period	1st Tariff Period (2012-2016)	2nd Tariff Period (2017-2021)	3rd Tariff Period (2022-2026)

- In their initial 8 years of operation, DSOs implement distribution charges they bid in the tenders.
- After the initial 8-year period, tariffs are determined by EMRA according to price cap methodology, for 5-year periods.
- Financial costs, exchange risks, losses and the bad debts are not taken into account during tariff calculations.
- Depreciation period is 22 years.

General outline of the elements of allowed revenues

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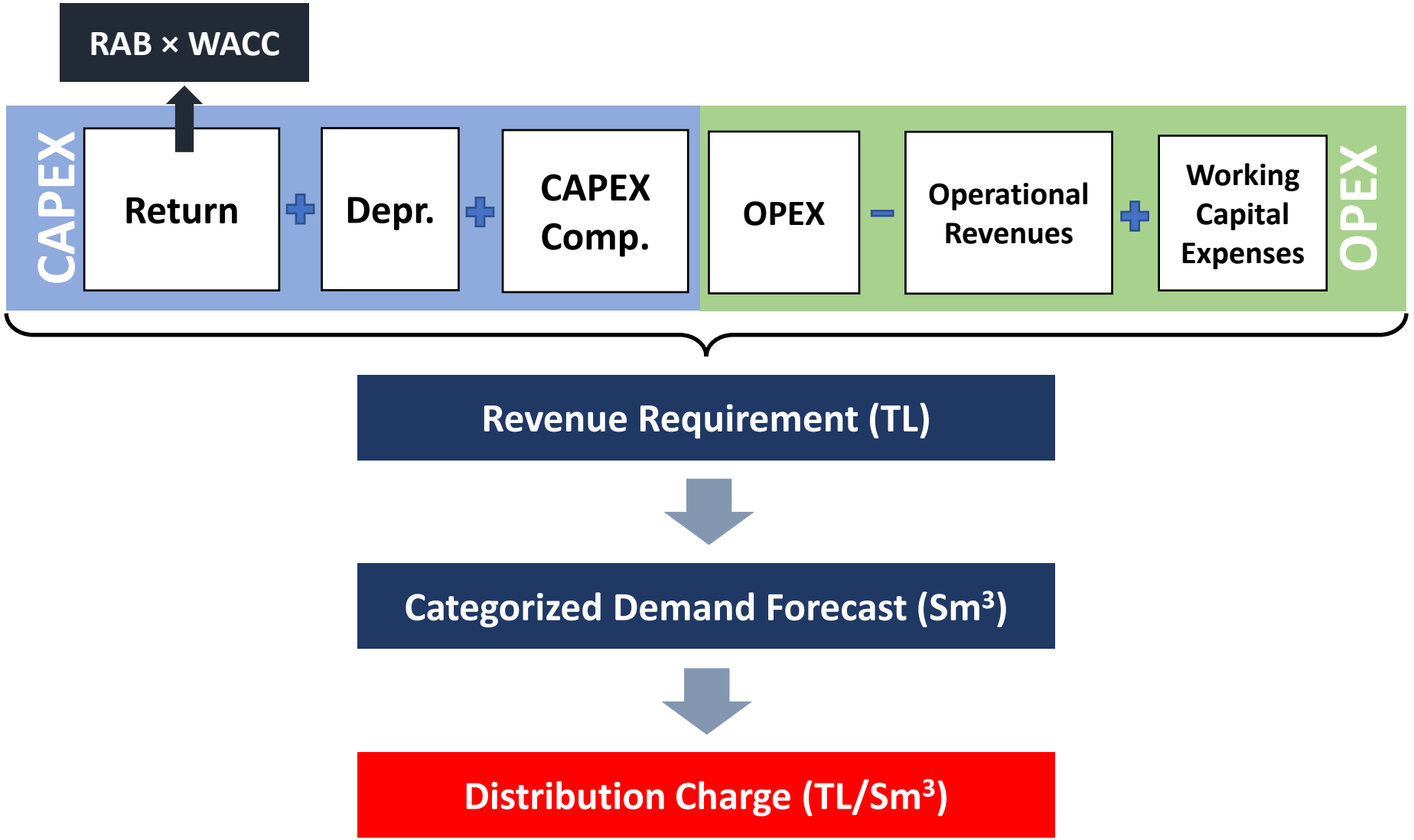

Regulatory model used for CAPEX review

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- Yardstick competition (Most network items)
- Cost-based elements (Network items with limited cost data or comparability)
- Reference company model for zonal expansions

CAPEX assessment models

Insert your logo here

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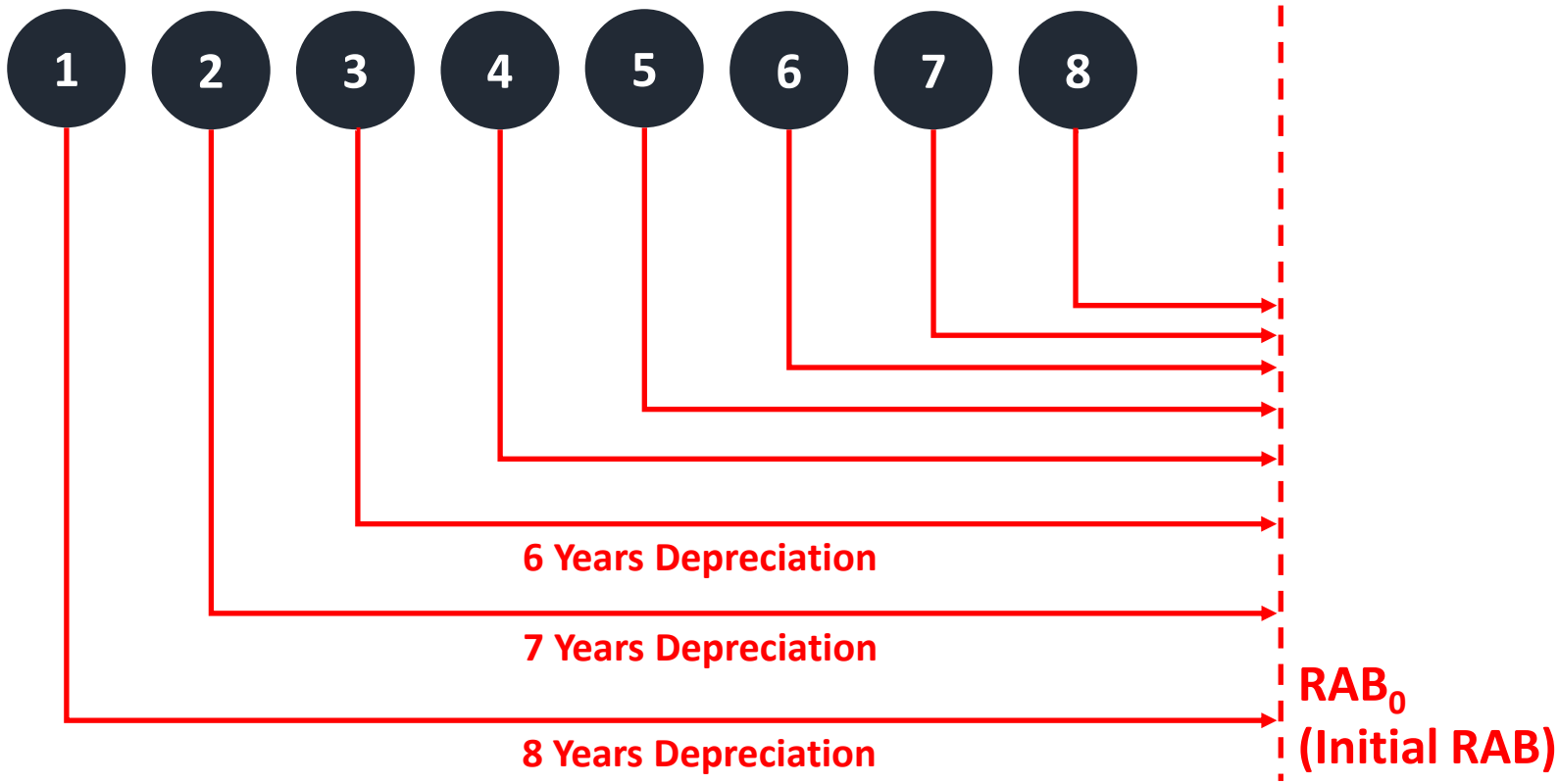
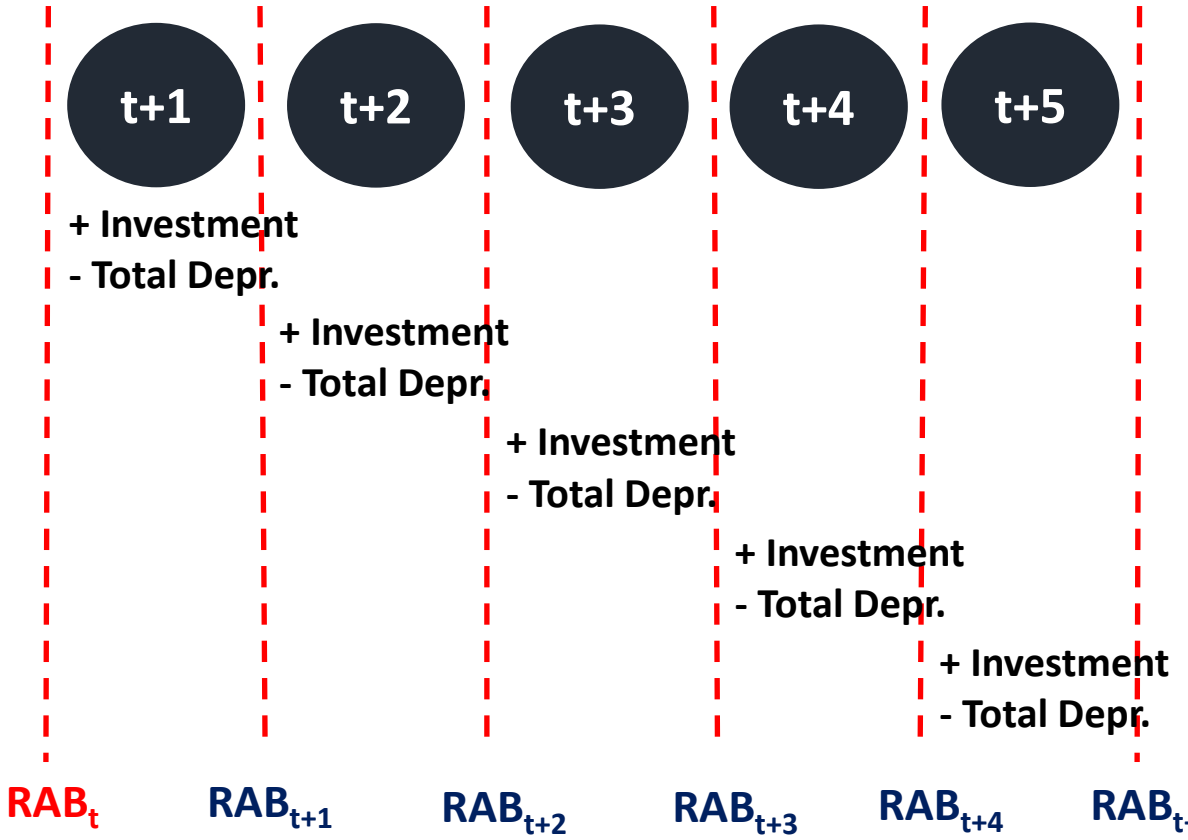
Calculation of Initial RAB

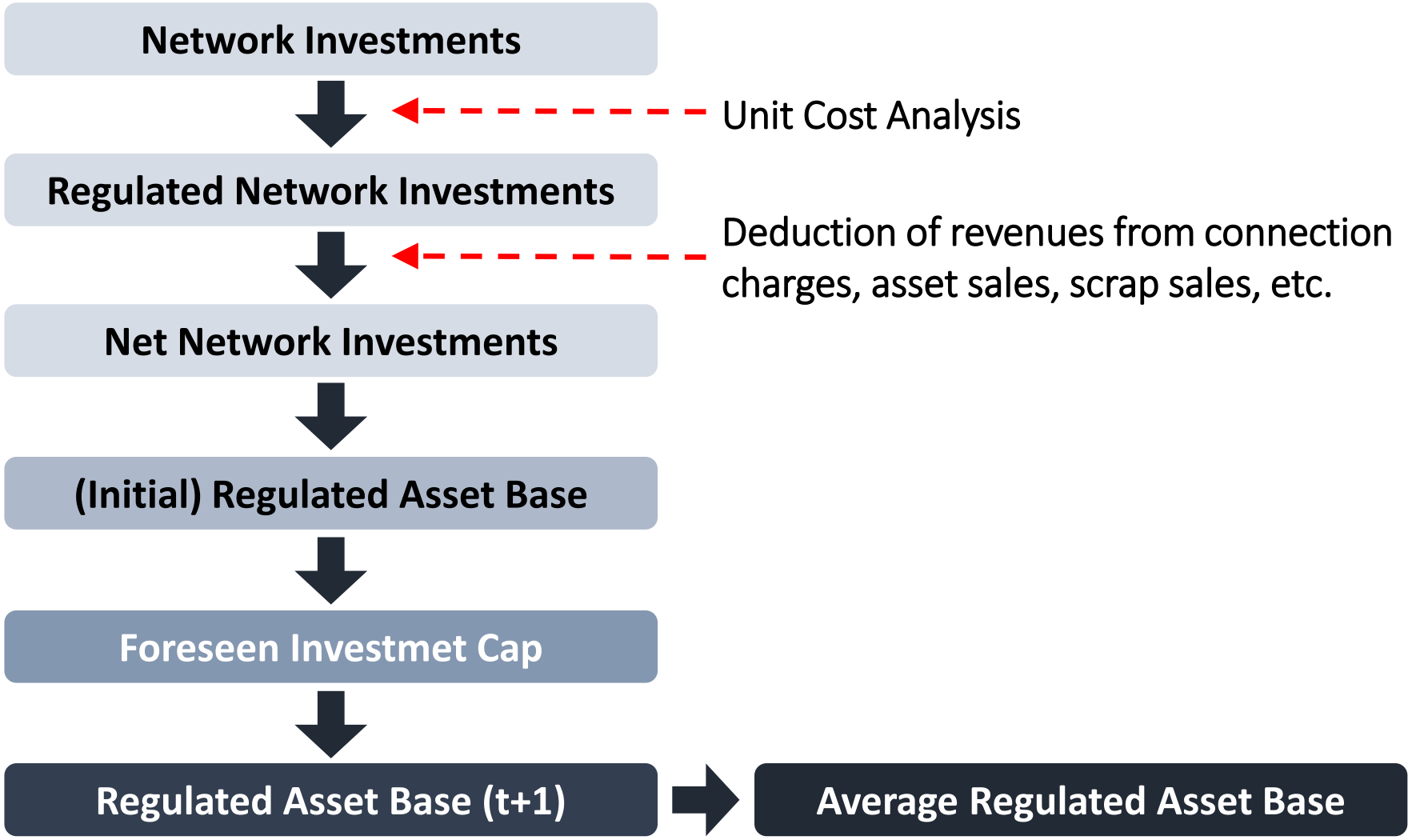


CAPEX assessment models

Calculation of $RAB_{(t+n)}$

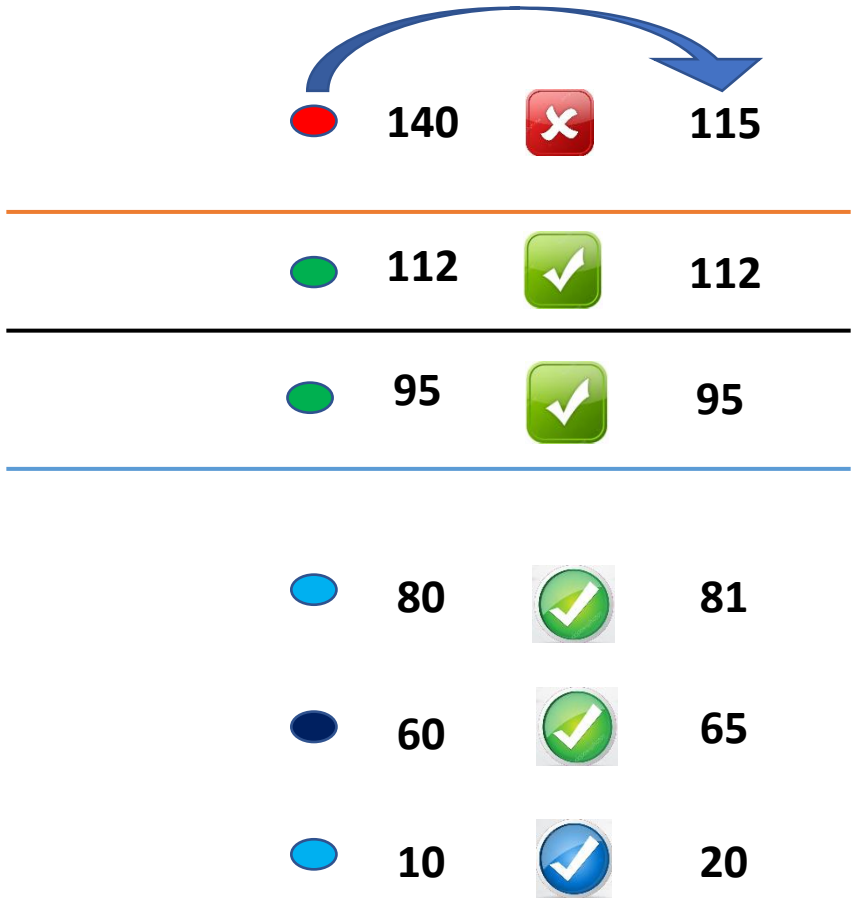


CAPEX assessment models



CAPEX assessment models

Unit Cost Analysis



Average + ½ Std. Deviation: 115

Average: 100

Average - ½ Std. Deviation: 85

Incentive = (Min.-Actual)*%20
= (85-80)*%20 = 1

Incentive = (85-60)*%20 = 5

Min (10 + (85-10)*%20 ; 10*2) = 20

CAPEX assessment models

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CAPEX Compensation Component

- The difference between «return and depreciation» calculated by,
- Foreseen investments for each tariff year, and
- Actual investments in each tariff year
- to be added to the revenue requirement of subsequent tariff period.

$$CAPEX\ Comp = \sum_{i}^{n} (\Delta R_i + \Delta \mathrm{D}_i) x (1 + WACC_i)^{n-i+1}\ x\ \frac{CPI_b}{CPI_i}$$

CAPEX assessment models

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Weighted Average Cost of Capital

- Represents the cost of capital utilized for financing network investments.
- It is the weighted average of cost of debt and equity.
- Cost of equity is calculated by capital assets pricing model.

$$WACC = \frac{k_d . w_d . (1 - t) + k_e . w_e}{1 - t}$$

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THANK YOU FOR YOUR ATTENTION!