

Does the forced marriage have a fair start? Acquisition Valuation in the Oil and Gas Holding Company Indonesian State-Owned Enterprise-A Case Study

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Abstract—Indonesia’s gas market will continue to expand to support the growing economy. The country’s gas demand is expected to increase by another 1,600 mmcf/d from 2017, reaching 5,100 mmcf/d in 2035 (Wood McKenzie Report 2017). The establishment of an oil and gas holding company by the Ministry of State-Owned Enterprises is considered as one way to avoid duplication of natural gas downstream management of two major players: PT PGN Tbk and PT Pertamina. This review aims to analyze all financial aspects related to the acquisition plan to address the investors’ concerns. We use a discounted cash flow method; company comparable analysis is used for the valuation with sensitivity analysis to gas price in the growth projection. Value of the synergy is obtained by value of the combined firm (with synergy) minus the value of the combined firm (with no synergy). Our conclusion is the acquisition will generate a synergy of 1.03 Billion USD and the value of Pertamina is between 1.16 – 1.23 Billion USD without the synergy effect.

Index Terms—PGN; Pertamina; holding; discounted cash flow; synergy value

I. INTRODUCTION

Throughout its history, Indonesia’s natural gas production has always been aimed at export markets. However, the decline in domestic oil production combined with the increase in international oil prices prompted the government to undertake efforts to increase domestic natural gas usage from 2005 to the present. In recent years the domestic consumption of natural gas has increased by lowering exports (Fig. 1) but limited infrastructure facilities in Indonesia’s transmission and distribution network complicate the further development of domestic consumption.

The two major players in the midstream and downstream of natural gas business in Indonesia are state-owned enterprises: PT Perusahaan Gas Negara Tbk (code: PGAS) a listed company, and PT Pertamina, an unlisted company and subsidiary of PT Pertamina- Indonesia largest upstream player (Fig. 2). The two companies make 80% of Indonesia’s pipeline and gas market. Horizontal integration is expected to create economic scale and synergy both in operation and finance. The government’s attempt to integrate the two companies in 2014

was canceled since business alliance were deemed sufficient at that time, however now under the Joko Widodo regime, the second coming of the integration is back on the table under the plan to establish a holding company for oil and gas state-owned enterprises under the leadership of PT Pertamina (Fig. 3).

The formation of the holding is started by the Government of Indonesia handing over 57% of PGN shares to Pertamina. PGN’s shareholders have agreed to the handover through a dedicated shareholders meeting held on 25 January 2018. The next move will be for PT PGN to acquire PT Pertamina (Fig. 3). Initially, there are two financing schemes which were proposed: (1) asset handover (2) cash scheme. Recent development indicates that the government favours the latter. In the cash scheme, PGN will only acquire the share of Pertamina.

The merger is unlikely to have a significant impact on upstream producers for now. Producers will still be able to sell directly to multiple gas buyers. However, this might change if the government decides to pursue a more extreme measure by restructuring the market, with the consolidated entity appointed as the single buyer of the upstream gas, in line with the proposed revisions of Indonesia’s oil and gas law (Wood McKenzie Report 2017).

II. LITERATURE REVIEW

M&A decision on firms in Indonesia total growth shows improvement but total revenue growth is declining [1]. Another study on domestic M&A deals in BRICS countries shows a market reaction to acquisition announcements is slightly negative, but not significant, for the acquirer, and significantly positive for the target [2].

Foreign investors including those in Indonesia are trying to reduce some of the risks by diversifying cross-border equity, but research shows that with increasing correlations between countries in the current era of globalization, the country’s risks cannot be fully diversified [?]. Increasingly connected

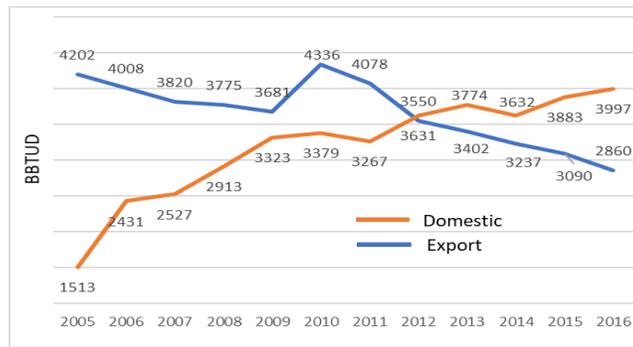


FIGURE 1: Natural Gas Export & Domestic Volume

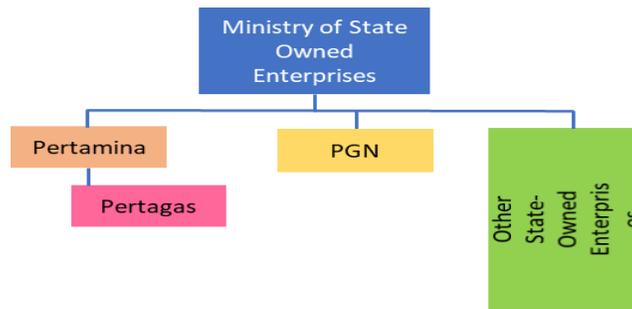


FIGURE 2: The Current Organization of State-Owned Oil & Gas Companies

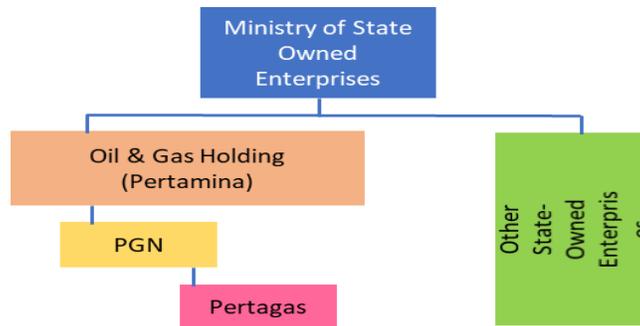


FIGURE 3: Organization of State-Owned Oil & Gas Holding Company

economies of countries in the world also makes the target companies in developed countries obtain more acquisition plans coming from companies of developing countries. This plan could come from companies that are currently outside the radar of old players in developed countries [4].

The declining Indonesian oil reserve, but abundant supply of gas must be the main consideration in the State-Owned Company. A high-level committee to support Indonesian State-Owned Enterprise must be established to transform into a company with high-performance category [5]. Research on the dominant effect of government ownership indicates that it has brought a reduction in the cost of debt due to an implicit guarantee (Borisova 2011). However, the market signal is required for these companies. Having a market signal for the

value of State-Owned Enterprise could be desirable because it could help the treasury in its fiscal planning and the managers for discipline and feedback [6].

Valuation plays the most significant role in acquisition analysis. The comparable approach as one of the valuation methods most widely used analyst, which includes ration of PER, EV/EBITDA dan EV/EG [7]. Based on Fernandez [7], PER and EV/EBITDA of the Natural Gas sector are 36.4 and 9.1 respectively.

III. RESEARCH METHODOLOGY

The Discounted Cash Flow (DCF) method are not only used to assess the company but also for the price of the Initial Public Offering (IPO) and assess other financial assets. The value of

the company is expressed as a projected value of cash flows acquired in the future which is discounted to obtain the present value, or commonly formulated with:

$$CompanyValue = \sum_{t=0}^n \frac{FCF_t}{(1+r)^t} + TerminalValue \quad (1)$$

Apart from the valuation of the target company, there are also special factors to consider in takeover valuation for acquisition. First, the effects of synergy on the combined value of the two firms (target plus bidding firm) have to be considered before a decision is made on the bid. Second, the effects on value, of changing management and restructuring the target firm, will have to be taken into account in deciding on a fair price.

The value of synergy expected to be obtained will determine the premium price that the bidding firm may pay to acquire the target company. The value is expressed by the following equation

$$V_S = V_{AB} - (V_A + V_B) \quad (2)$$

In recent years, in the comparable approach method, analysts are increasingly valuing target companies with Enterprise Value (EV) values obtained through multiplication of EV/EBITDA ratios of firms in the same region, industry, and scale multiplied by target company EBITDA.

EV is essentially is the amount of a bidding company will need to pay to acquire the target company. The formula of EV consists of: the sum of the market values of long-term debt (MVD), preferred equity (MVPF), common equity (MVFCFE), and noncontrolling interest excluding cash. The EV-to-EBITDA multiple is commonly expressed as follows:

$$\frac{EV}{EBITDA} = \frac{[MV_{FCFE} + MV_{PF} + (MVD - cash)]}{EBITDA} \quad (3)$$

where (MVD - cash) is often referred to as net debt. The company value obtained from the multiple approaches is to be compared to the company value from the Discounted Cash Flow method. The range between the two values will be the basis of consideration in the market price of the target firm.

IV. RESULT

Result analysis is divided into four subsections: financial ratios, valuation of both companies without synergy effect, synergy effect expected and valuation sensitivity analysis.

From the historical financial report obtained, the ratios to measure company performance and prepare projection is developed. There are 3 main ratios which were analyzed:

1. Profitability Ratio

According to Damodaran data (2018), the average natural gas distribution sector companies in the United States have a gross profit ratio of 38.39% and profit to revenue ratio of 2.04%. In

this case, PGN is below the 2015 average for the gross profit ratio but until 2017 it is still above the average for profit to revenue ratio (Fig. 4).

In this case, Pertamina is always at the average value for the gross profit ratio and for net profit to revenue ratio is well above the average.

2. Solvability Ratio

The current ratio of PT Perusahaan Gas Negara (Persero) Tbk and its subsidiaries has a good value which is far above 1 or 100%. Even the value of the ratio tends to increase from 2013 to 2017. The value of debt to assets for the natural gas industry in the United States according to Berk and DeMarzo (2015) is 38%. Until 2017 PGN's debt to asset ratio was still at an average level of 38% (Fig. 5).

The current ratio of PT Pertamina and its subsidiaries has a value that tends to be stable close to 1 or 100%. The value of debt to assets for the natural gas industry in the United States according to Berk and DeMarzo (2015) is 38%. Until 2016 Pertamina's debt to asset ratio was still slightly above the average level of 44% (Fig. 5).

3. Performance Ratio

A higher ROCE (Return on Capital Employed) value indicates that a higher percentage can be returned as profit to shareholders. As a general rule, to show that a company uses efficient capital use, the ROCE value must be at least twice the current interest rate. With the latest ROCE value in 2017 still below 10%, PGN's performance is still below the expectations of shareholders (Fig. 6).

Unlike its profitability ratio, Pertamina's performance tends to continue to decline from 2013 to 2017. With the last ROCE value in 2016 still worth 14%, Pertamina's performance is still above PGN in the efficient use of capital to make a profit (Fig. 6).

A. Valuation Without Synergy Effect

In valuation using DCF method, the assumption of revenue growth according to Damodaran [?] can be done through approach with multiplication between Capex with ROIC (Return on Invested Capital). In this case, we use the gas consumption projection by the Indonesian Ministry of Energy as revenue growth forecast which project an increase in natural gas utilization between 2015-2020 averaging 6% per year, and the year 2020-2025 worth 7% per year. With these two growth rates, the company is then assumed to be in stable growth with a general value taken from 2% -3% below GDP, with a value of 2% for PGN and 3% for Pertamina. The stable growth rate is greater in Pertamina because with the size of the company it has a bigger room to expand in five years compared to PGN.

After obtaining the cost of equity and the cost of debt for each company, then the WACC can be calculated. From the latest financial report, PGN has a composition of 49% debt and 51% equity, whereas Pertamina has a composition of 43% debt and 57% equity. By using a 25% tax rate, the value of

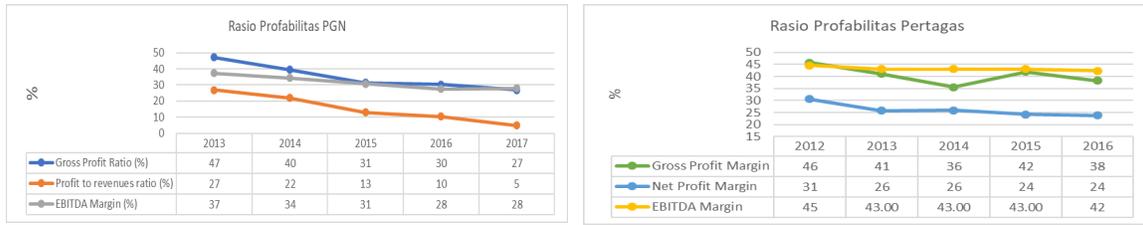


FIGURE 4: Profitability Ratio PGN & Pertagas

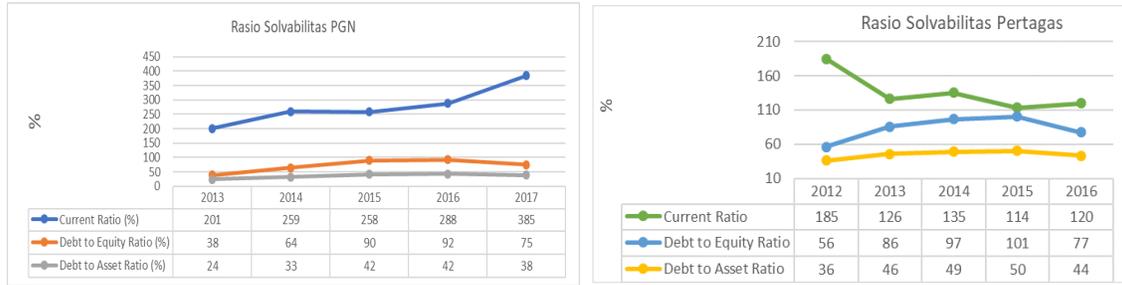


FIGURE 5: Solvability Ratio PGN & Pertagas

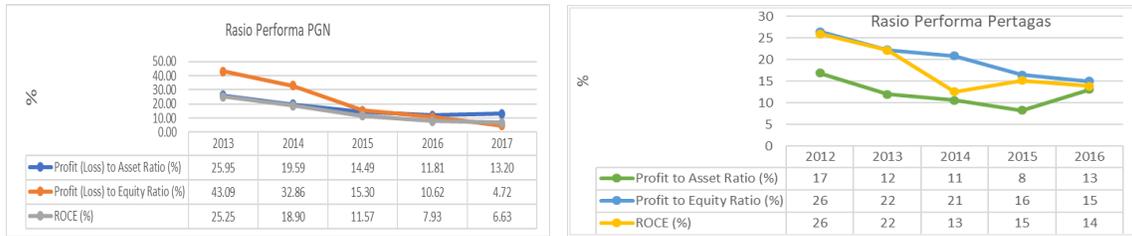


FIGURE 6: Performance Ratio PGN & Pertagas

WACC obtained from each company is 9.51% for PGN and 10.06% for Pertagas.

Valuation with multiples is done by comparing other companies engaged in trading, gas distribution and transmission. The following table shows several companies engaged in the same field, including companies from the United States, India, and China which have values that is close to the PGN value. The value of each multiple is obtained from YahooFinance data. In this analysis, the average value of EV/EBITDA from companies mentioned in the figure above is 10.63. The EBITDA of each company in 2017 amounted to 590,156,893 US Dollars (PGN) and 261,770,305 US Dollars (Pertagas).

The sum of both methods in Figure 7 for each company are provided in Figure 8. These two companies are relatively stable, and investors understand that the capital returns will exceed the cost of capital. The range between the two methods results provide “value space” for the asset, that is, a range of values that help draw a negotiation area for buyer and seller in this case for PGN and Pertagas respectively.

B. Synergy Effect

The result of Pertagas acquisition by PGN is expected to generate synergies that cannot be generated if the two companies are not integrated within the state-owned oil and gas holding company. The synergy effect undertaken takes the assumption that better performance of each of these companies is then implemented after the acquisition to obtain the expected synergistic effect. There are two things obtained through the analysis of financial statements that can be assumed as synergistic effects that will appear on the company after the acquisition:

- 1) The cost of natural gas in the business of Distribution & Commerce PGN can be derived following the cost of Pertagas from USD \$ 5299 / BBTU to USD \$ 4747 / BBTU or there is a saving of 10.42%. This cost is assumed to be the same after a period of three years. The projected cost reduction is shown in the Table 1. With other assumptions remain as in the calculation without synergistic effect PGN value with synergy effect is obtained as in Table 2. The value of PGN after taking into account its synergic effect is 6.640 billion

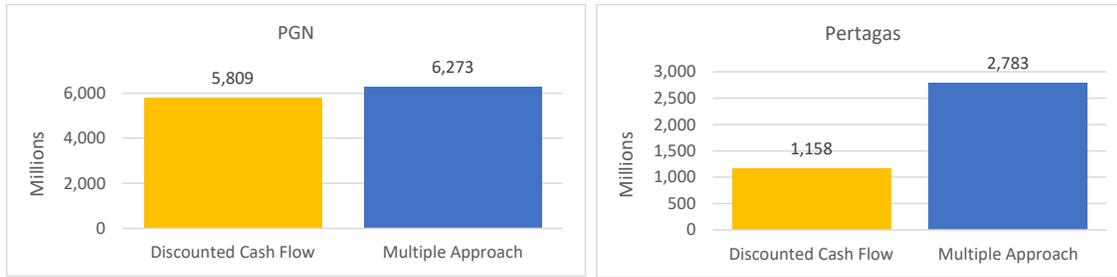


FIGURE 7: DCF and Multiple for Pertagas

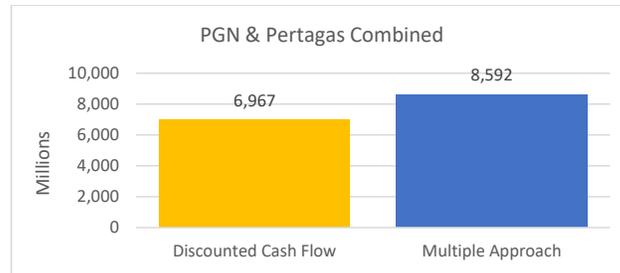


FIGURE 8: DCF and Multiple for PGN

TABLE I: Cost Reduction Forecast

Company	2018	2019	2020	2021	2022
PGN	2.00%	5.00%	8.00%	10.42%	10.42%

US dollars.

- The ratio between the income and expenses of the business field of Distribution & Commerce Pertagas is expected to increase from 1.14 to 1.48 following the ratio of income and expenses for the same business in PGN. The ratio of both companies in the last five years can be seen in Table 3.

This increase in the ratio of Pertagas is assumed to take up to three years to be equal to the PGN ratio of 1.48. Projected increases in ratios for the next five years are assumed as in Table 4.

With the increase in ratios like the table above and not changing the assumptions used in the calculations without synergistic effect, the value of Pertagas with synergy effect is obtained as in Table 5.

Pertagas value after taking into account its synergic effect is 2.085 billion US dollars. From the above calculation the synergies effect of the merger of PGN and Pertagas can be obtained as follows:

$$\begin{aligned}
 SynergyValue &= (V_{PGN} + V_{Pertagas})_{post-acquisition} - \\
 & (V_{PGN} + V_{Pertagas})_{pre-acquisition} = \\
 & 1,028,162,312USD
 \end{aligned}
 \tag{4}$$

The result indicates huge synergy effect gain by PGN by this acquisition should actions by management to make the assumption parameter is effectively executed.

C. Valuation Sensitivity Analysis

Sensitivity analysis is performed to analyze the contribution of uncertain variables that directly affect the value of the company. In this analysis, there are two variables in which sensitivity analysis is carried out: first the rate of volume growth of the use of natural gas and second the price of natural gas.

Assumption for sensitivity analysis:

- Because PGN and Pertagas will become companies that control 90% of the natural gas market in Indonesia, the revenue growth rate assumed will be increased along with the increase in natural gas utilization. The projection of natural gas utilization is carried out in two scenarios, which are:
- Growth in line with the projections of the ESDM Ministry between 2015-2020 the average growth in natural gas utilization is projected to be 6% per year, and in 2020-2025 worth 7% per year.

TABLE II: Present Value of PGN with synergy

PGN w/ Synergy (\$)	2018	2019	2020	2021	2022
FCFF	2.632.369	302.626.757	336.569.931	426.073.550	629.946.299
Terminal Value					8.556.864.883
Discount Factor	0,913	0,833	0,761	0,695	0,634
Present Value	2.403.790	252.351.998	256.285.744	296.267.098	5.833.287.093
Total Present Value	6.640.595.725				

TABLE III: Sales/Cost Ratio Comparison
Natural Gas Sales/Cost Ratio

Company	2013	2014	2015	2016	2017
Pertagas	1.13	0.81	1.13	1.14	1.14
PGN	1.77	1.70	1.61	1.64	1.48

TABLE IV: Sales/Cost Ratio Pertagas Forecast
Pertagas projection of Sales/Cost Ratio

Perusahaan	2018	2019	2020	2021	2022
Pertagas	1.23	1.35	1.48	1.48	1.48

TABLE V: Present Value of Pertagas with synergy
In Thousand USD

Pertagas w/ Synergy	2018	2019	2020	2021	2022
FCFF	60.414	70.004	76.467	88.301	96.849
Terminal Value					1.413.749
Discount Factor	0,908	0,825	0,750	0,681	0,619
Present Value	54.894	57.796	57.363	60.188	935.576
Total Present Value	1.165.818				

- 3) Growth in line with the increase in Indonesia's GDP according to Bank Indonesia's projections of 5.3-5.7% per year to 2019 then to 6% between 2020-2022.

In each growth scenario, it is simulated with the projection of natural gas prices. In the World Bank's projection, gas prices are projected to rise by 1.7% to 2.5% from 2017 to 2025. The World Bank projections indicated in figure 9. The results of the calculation of sensitivity analysis according to the scenarios mentioned above, is presented in table 6.

The results of the analysis show that gas prices that have risen constantly and growth projections according to the plan of the Ministry of Energy and Mineral Resources produce the greatest value of the company.

V. DISCUSSION

- 1) The results of the greatest synergy of the two companies can be achieved through savings in the cost of gas acquisition costs in the gas distribution and trading business segment, which is the largest business field for PGN. With PGN's gas volume being much greater, the synergy effect that occurs at PGN's value is greater than for Pertagas. The synergy value that will be obtained

from these two parameters is so significant that the assumption parameters in the acquisition of synergies must be achieved through a measurable and clear management strategy.

- 2) There are synergy effects which will be resulted in the operations through this acquisition such as economies of scale, economies of scope and acquisition of expertise and technical assets of the company. Management plan to achieve this synergy must be planned so the integration and result will be achieved in efficient time.
- 3) With PGN's share price in the market still in the range of IDR 2,030 on 7 Sept 2018 compared to the calculation obtained which is IDR 2,369, PGN's share price is still considered as undervalued shares.

VI. CONCLUSION

- 1) From the results of the calculation of PGN's valuation, the two methods generate value as follows:
- With a WACC of 9.51% using the Discounted Cash method Flow was obtained at a value of \$ 5,620,347,413 US Dollars.

TABLE VI: Sensitivity Analysis Result

	GDP growth - Indonesia (5%-6%)		Growth as per Ministry of Energy projection (6%-7%)	
	Gas price follows World Bank Projection	Gas price constant	Gas price follows World Bank Projection	Gas price constant
Without Synergy Effect (in USD)				
Pertagas Value	7,369,573,164	6,761,076,297	8,180,902,320	7,437,183,927
PGN Value	1,926,380,782	1,767,321,818	2,138,459,400	1,944,054,000
With Synergy Effect (in USD)				
Pertagas Value	8,430,401,434	7,734,313,242	9,358,519,023	8,507,744,566
PGN Value	2,065,833,657	1,895,260,235	2,293,264,885	2,084,786,259

- Multiple methods (EV / EBITDA) from the company in depth close value to PGN and the same industrial sector is obtained by value \$ 6,273,367,773 US Dollars.

Differences in valuation results indicate that there is a difference between intrinsic value and market value of the company where the market still assesses the company has a lower value.

- From the results of Pertagas's valuation calculation with the two methods of generating value:
 - With WACC of 10.06%, using the Discounted Cash method Flow is obtained at a value of \$ 1,157,904,000 US Dollars.
 - With the Multiple methods (EV / EBITDA) of the company the value is obtained \$ 2,782,618,345 US Dollars.

Differences in valuation results indicate that there is a difference between intrinsic value and market value of the company. Unlike the PGN market value in valuations, Pertagas is greater than its intrinsic value.

- The synergy effect of the two companies produces a much greater value than Multiple method valuation results:
 - PGN's value after acquiring and synergizing with Pertagas amounting to \$ 6,640,595,725 US Dollars.
 - Pertagas Value after synergizing with PGN for \$ 1,165,818,000 US dollar.
- Changes in the value of the two companies due to synergy effects that will not occur if each company is still operating separately are equal to 1,028 billion US dollars.
- A recent decision of PGN to acquire 51% of Pertagas with IDR 16,6 Trillion considered slightly below value obtain from our valuation which IDR 20,57 Trillion.

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