

CHAPTER 4 – RESULTS AND DISCUSSIONS

From the results of the analysis of various primary and secondary datas in the FGD forum which was intense enough to be able to complete root cause analysis (RCA), pareto, vehicle optimizer (VO), optimum fleet recommendation (OFR) and Prons & cons, PTXYZ began implementing recommended solutions. The recommendation namely : adding equipment in quantity to improve readiness, changing specifications in size to suit operation condition and selecting alternative purchases via IMBT PSAK 107 (2021) facility due to a number of covenant limitations.

4.1 Purchasing New Equipment

PTXYZ decided to choose alternative 2nd and finally purchase : 5x PC850-8R1 ME Bucket 5 m3 and 28x P410-B8x4 DV25 with retarder, total purchase reached IDR 120 Bio with IMBT facility PSAK 107 (2021) that the accounting mechanism is "Off balance sheet". The scheme is operating lease with option to transfer asset ownership from lessor to lessee in the middle or at the end of contract based on agreed price or as a grant with separate new contract. By purchasing and adding new equipment and new specification with that scheme, impact in increasing equipment readiness, both in quantity and size. It will have an impact on increasing machine utilization and result in production improvement, as shown in the following sensitivity table:

Analysis	Type Fleet	PA (%)	Readiness (%)	Working Hours (Hour/Day)	Working Days (Day/Month)	Number of Unit by PA	Production		
							TPD	TPM	TPY
Alt.1	Exca PC 400-8	90%	100%	10,71	30	6	25.000	750.000	9.000.000
	DT P360 6x4 DV17	90%	100%	10,71	30	35	25.000	750.000	9.000.000
	Exca PC 400-8	85%	83%	10,71	30	5	22.228	666.851	8.002.214
	DT P360 6x4 DV17	85%	86%	10,71	30	30	22.030	660.909	7.930.903
	Exca PC 400-8	80%	83%	10,71	30	5	22.228	666.851	8.002.214
	DT P360 6x4 DV17	80%	80%	10,71	30	28	20.562	616.848	7.402.176
	Exca PC 400-8	75%	83%	10,71	30	5	22.228	666.851	8.002.214
	DT P360 6x4 DV17	75%	74%	10,71	30	26	19.093	572.787	6.873.449
	Exca PC 400-8	65%	67%	10,71	30	4	17.783	533.481	6.401.771
	DT P360 6x4 DV17	65%	66%	10,71	30	23	16.890	506.697	6.080.359
	Exca PC 400-8	60%	67%	10,71	30	4	17.783	533.481	6.401.771
	DT P360 6x4 DV17	60%	60%	10,71	30	21	15.421	462.636	5.551.632
	Exca PC 400-8	55%	50%	10,71	30	3	13.337	400.111	4.801.328
	DT P360 6x4 DV17	55%	54%	10,71	30	19	13.953	418.575	5.022.905
	Exca PC 400-8	50%	50%	10,71	30	3	13.337	400.111	4.801.328
	DT P360 6x4 DV17	50%	51%	10,71	30	18	13.218	396.545	4.758.542
Alt.2	Exca PC 850-8R	90%	100%	10,71	30	5	25.000	750.000	9.000.000
	DT P410 8x4 DV22	90%	100%	10,71	30	28	25.000	750.000	9.000.000
	Exca PC 850-8R	85%	80%	10,71	30	4	23.965	718.949	8.627.387
	DT P410 8x4 DV22	85%	86%	10,71	30	24	21.813	654.396	7.852.755
	Exca PC 850-8R	80%	80%	10,71	30	4	23.965	718.949	8.627.387
	DT P410 8x4 DV22	80%	79%	10,71	30	22	19.995	599.863	7.198.358
	Exca PC 850-8R	75%	80%	10,71	30	4	23.965	718.949	8.627.387
	DT P410 8x4 DV22	75%	75%	10,71	30	21	19.087	572.597	6.871.100
	Exca PC 850-8R	70%	80%	10,71	30	4	23.965	718.949	8.627.387
	DT P410 8x4 DV22	70%	71%	10,71	30	20	18.178	545.330	6.543.962
	Exca PC 850-8R	65%	60%	10,71	30	3	17.974	539.212	6.470.540
	DT P410 8x4 DV22	65%	64%	10,71	30	18	16.360	490.797	5.889.566
	Exca PC 850-8R	60%	60%	10,71	30	3	17.974	539.212	6.470.540
	DT P410 8x4 DV22	60%	61%	10,71	30	17	15.451	463.531	5.562.368
	Exca PC 850-8R	55%	60%	10,71	30	3	17.974	539.212	6.470.540
	DT P410 8x4 DV22	55%	54%	10,71	30	15	13.633	408.998	4.907.972
	Exca PC 850-8R	50%	60%	10,71	30	3	17.974	539.212	6.470.540
	DT P410 8x4 DV22	50%	50%	10,71	30	14	12.724	381.731	4.580.774

Table 4.1 Sensitivity Correlation Readiness to Production

Refer to table 4.1 sensitivity correlation between readiness to production, that every 5% increase in availability that impact to readiness is equivalent of adding 0-1 excavator unit and 1-2 dump trucks. And will provide an increasing of utilization hours and result in increasing production equivalent to 50,000 tons, even in alt 1st or alt 2nd. And due to new machine for alt 2nd the minimum PA will be at minimum level 85-90%, equivalent readiness 80%-100%. And fleet production will being able to touch 654.000-750.000 ton/month as a target contract.

4.2 Operation Activity Improvement

Before the units arrived, PTXYZ had made improvements, namely by cutting gradability and rolling resistance by scrapping and compacting the road.



Fig 4.1 Final Gradability at Project-X after Cutting

Refer to fig 4.1 final gradability after cutting, from an average of around 15% to an average of 11.27%. It is true that significant improvements at the 8-10% level cannot yet be made, because this must be in line with the decrease in mine elevation. However, this condition is still being addressed and balanced by increasing the capacity of equipment specifications and creating a Standard Operation Procedure (SOP) for loading hauling project-X.

4.3 Operation Performance Improvement

After adjusting the equipment match with field operating conditions, equipment availability and readiness increased quite significantly, previously the average readiness was only 60%, increasing to 90%.

NO	UNIT	JUL	AUG	SEP	OCT	NOV	YTM
1	PC 850 - 01 (Asset)	74%	100%	100%	38%	31%	69%
2	PC 850 - 02 (Asset)	83%	79%	90%	100%	100%	90%
3	PC 850 - 03 (Asset)	91%	100%	98%	100%	100%	98%
4	PC 850 - 04 (Asset)		100%	100%	100%	97%	99%
5	PC 850 - 05 (Asset)			100%	100%	100%	100%
	PA	83%	95%	98%	88%	86%	91%
	RFU	2,5	3,8	4,9	4,4	4,3	
	Readiness	83%	95%	98%	88%	86%	90%
1	SCANIA B-01	90%	98%	57%	0%	36%	56%
2	SCANIA B-02	89%	99%	95%	95%	39%	83%
3	SCANIA B-03	92%	95%	96%	96%	95%	95%
4	SCANIA B-04	93%	99%	95%	91%	86%	93%
5	SCANIA B-05	90%	81%	97%	98%	96%	93%
6	SCANIA B-06	94%	76%	96%	96%	97%	92%
7	SCANIA B-07	98%	81%	91%	98%	95%	93%
8	SCANIA B-08	99%	98%	92%	95%	93%	95%
9	SCANIA B-09	96%	96%	99%	97%	96%	97%
10	SCANIA B-10	91%	98%	97%	95%	87%	94%
11	SCANIA B-11	96%	98%	100%	98%	97%	98%
12	SCANIA B-12	97%	96%	97%	100%	98%	98%
13	SCANIA B-13	90%	97%	98%	99%	97%	96%
14	SCANIA B-14	95%	98%	97%	97%	95%	96%
15	SCANIA B-15	98%	92%	98%	91%	97%	95%
16	SCANIA B-16	96%	30%	96%	90%	95%	82%
17	SCANIA B-17	87%	97%	0%	66%	95%	69%
18	SCANIA B-18	98%	98%	90%	100%	95%	96%
19	SCANIA B-19			100%	89%	93%	94%
20	SCANIA B-20			100%	98%	94%	97%
21	SCANIA B-21			100%	97%	95%	97%
22	SCANIA B-22			100%	99%	96%	98%
23	SCANIA B-23			100%	97%	91%	96%
24	SCANIA B-24			80%	80%	93%	85%
25	SCANIA B-25			98%	99%	95%	97%
26	SCANIA B-26			100%	99%	97%	99%
27	SCANIA B-27			100%	97%	93%	97%
28	SCANIA B-28			100%	99%	96%	98%
	PA	94%	90%	92%	91%	90%	92%
	RFU	16,9	14,5	25,7	25,6	25,3	
	Readiness	94%	80%	92%	91%	90%	90%

Table 4.2 Performance Availability and Readiness

Refer to table 4.2 performance equipment, readiness for excavator loading equipment and dump truck hauling equipment getting improve than previous equipment. With

those availability and readiness achievement, utilization higher and the losses working hours only for routine maintenance that occupied 5-8% available hours only.

4.4 Production and Financial Performance Improvement

After the machine gradual arrival on project-X, there was an increase in equipment readiness by 30%, from an average of 60% to 90%. And there was an increase in daily production and in term of sales revenue.

Description	Year 2023						TOTAL	Avg Increase	Remark
	Avg Jan-July	Aug	Sep	Oct	Nov	Avg Aug-Nov			
VOLUME	430.724	601.045	672.545	818.154	787.294	719.760	6.325.703	167%	After project production increase 167%.
Prod. Tambang									
- PIR	85.288	103.964	85.344	85.632	156.800	97.948	914.092		
- PNBK	317.996	434.507	574.968	680.470	592.414	570.590	4.826.330		
- PIT	42.182	60.654	52.383	52.052	38.080	50.742	540.425		
- Development	6.134	1.920	-	-	-	960	44.856		
REVENUE	3.381.180	4.718.203	5.279.478	6.422.509	6.321.971	5.685.540	49.791.602	168%	After project Sales Revenue increase 168%.
Prod. Tambang									
- PIR	512.598.557	816.117.400	356.342.900	672.211.200	3.259.304.000	775.943.875	7.303.843.957		
- PNBK	2.496.271.964	3.410.879.250	4.511.498.800	5.341.680.300	4.757.084.400	4.505.788.168	37.993.328.384		
- PIT	331.128.700	476.133.900	409.636.550	408.608.200	305.392.600	400.040.263	4.249.150.650		
- Development	41.270.814	35.072.000	-	-	-	3.768.000	345.338.514		

Table 4.3 Performance Production and Revenue after Improve

Refer to table 4.3 performance production and revenue, increasing the performance of production operations from 430.726 become 719.760 ton per month an average, or increase 167% on a average monthly basis. And there is an increase in sales revenue which previously during the seven month averaged IDR 3.38 Bio per month become IDR 5.68 Bio, or increase 168%.

Desc	Ytd Juli			Agustus		September		Oktober		November		Ytd November		
	Actual	RKAP	Avg Before	Actual	RKAP	Actual	RKAP	Actual	RKAP	Actual	RKAP	Avg After	Actual	RKAP
REVENUE	23.667	35.260	3.381	4.720	7.179	5.276	8.922	6.421	8.126	6.320	8.922	5.684	46.403	62.429
HPP	22.895	17.828	3.271	3.577	2.662	4.575	4.951	5.331	4.883	4.407	4.951	4.472	40.785	35.276
LABA KOTOR	771	17.441	110	1.143	4.517	702	1.971	1.090	1.243	1.913	1.971	1.212	5.619	27.143
OPEX	845	1.550	121	130	241	150	204	181	258	91	207	138	1.397	2.361
LABA USAHA	- 74	15.891	- 11	1.013	4.276	552	1.767	909	1.085	1.821	1.764	1.074	4.222	24.782
PENDAPATAN (BEBAN) LAINNYA	- 1.691	2.516	- 242	- 313	1.219	- 266	1.143	- 260	248	- 327	- 308	- 291	- 2.856	4.817
LABA SEBELUM PAJAK	- 1.765	18.407	- 252	701	5.495	286	2.909	650	1.333	1.494	1.456	783	1.365	29.600
Margin Laba Sebelum Pajak	-7,5%	52,2%	-7,5%	14,8%	76,5%	5,4%	42,0%	10,1%	21,8%	23,6%	21,0%	13,8%	2,9%	47,4%

Table 4.4 Financial Performance Project-X after Improvement

Refer to table 4.4 financial performance project-X, during August, September, October until November 2023 along with increasing readiness, which has the impact of increasing utilization and productivity impact in increasing sales revenue, this has encouraged the financial performance of project-X of PT XYZ at West Sumatra to experience a significant increase. The profit margin before tax year to date July 2023 formerly minus (-7,5%) has become positive each month since August to November namely 14.8%, 5.4%, 10,1 and 23,6%. Before project average (-7,5%) after project average positive 13,8%. And in year to date November 2023 project-X has become positive 2,9%. If PTXYZ uses the PSAK 73 operating lease treatment scheme, the income statement will not be as good as with the IMBT PSAK 107 treatment, as follow :

Desc	PSAK 107		PSAK 73	
	Actual	RKAP	Actual	RKAP
VOLUME (TON)	5.893,0	7.853,0	5.893,0	7.853,0
REVENUE	46.403,4	62.419,0	46.403,0	62.419,0
HPP	40.784,8	35.276,0	40.618,0	35.276,0
GROSS PROFIT	5.618,6	27.143,0	5.785,0	27.143,0
OPEX	1.397,0	2.361,0	1.397,0	2.361,0
OPERATING PROFIT	4.221,7	24.782,0	4.388,0	24.782,0
OTHER EXPENSES/INCOME	- 2.856,5	909,0	- 4.090,7	909,0
PROFIT BEFORE TAX	1.365,2	25.691,0	297,4	25.691,0
MARGIN BEFORE TAX'	2,94%	41,16%	0,64%	41,16%

Table 4.5 Income Statement project-X IMBT PSAK 107 compare to PSAK 73

Refer to table 4.5 income statement project-X IMBT PSAK 107 compare to PSAK 73, the scheme IMBT much better than PSAK 73. The difference very significant, the profit margin PSAK 73 only 0,64% instead 2,94% the real one.

And the good think the ratio covenants also increase than before.

RASIO	Covenant	Target	Before	After	Polariza- tion
ACP (Days)		155	98	120	Min
APP (Days)		184	158	174	Max
AIP (Days)		9	9	8	Min
CCC (Days)		-20	-51	-46	Min
Current Ratio (X)	Min 1	1,04	1,08	1,14	Max
IBD (Rp mio)		1,738	4,304	872	Min
DER (X)	Max 2.5	2,5	3,02	2,86	Min
IBD to Equity (%)		0,03	0,04	0,01	Min
EBITDA to Interest (%)	Min 1	7,06	4,99	7,69	Max
Debt To EBITDA (%)		13,08	15,79	6,8	Min

Table 4.6 Covenant PT XYZ after Project-X Improvement

Refer to table 4.6 covenant PT XYZ after project improvement become better, before current ratio 1,08 increase 1,14 from target 1,04 ; DER improve from 3,02 down to 2,86 from target max 2,5 ; Debt to EBITDA also improve decrease from 15,79 become 6,8. If PTXYZ uses the PSAK 73 operating lease treatment scheme, the covenant ratio will not be as good as with PSAK 107 IMBT treatment, the profile covenants by uses PSAK 73 as follow :

RASIO	Covenant	Target	PSAK 107	PSAK 73	Polariza- tion
ACP (Days)		155	120	120	Min
APP (Days)		184	174	173	Max
AIP (Days)		9	8	8	Min
CCC (Days)		-20	-46	-44	Min
Current Ratio (X)	Min 1	1,04	1,14	1,13	Max
IBD (Rp mio)		1,738	872	872	Min
DER (X)	Max 2.5	2,5	2,86	3,52	Min
IBD to Equity (%)		0,03	0,01	0,01	Min
EBITDA to Interest (%)	Min 1	7,06	7,69	8,17	Max
Debt To EBITDA (%)		13,08	6,8	7,83	Min

Table 4.7 Covenant Improvement IMBT PSAK 107-PSAK 73

Refer to table 4.7 covenant PT XYZ after project improvement use scheme IMBT PSAK 107 much better than use PSAK 73. Namely current ratio, DER and debt to ebitda.

And for with that decision PT XYZ has improved the return on asset, as follow :

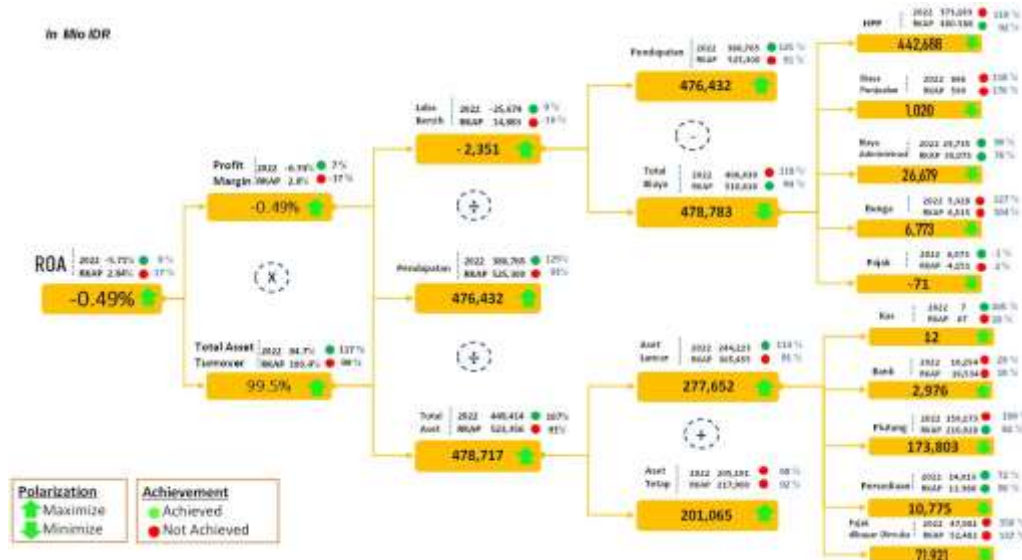


Fig 4.2 Dupont Analysis to Control Return On Asset after Improvement

Refer to fig 4.2 dupont analysis to control RoA, after project improvement RoA PT XYZ getting improve before (-2,03%) increase (-0,89%). The improvement in RoA because of PT XYZ success in increasing utilization asset due to readiness improvement from 60% to 90% in project-X, which is impact in increasing production 167% and increase revenue 168% in project-X. Also PT XYZ able to manage debt that can eroded RoA due to not being too aggressive in fixed asset investments in tight covenants.

This improvement has not been able to increase RoA on a consolidated basis, because one of the project of PT XYZ at Tuban that contributed 49 % of revenue experienced a significant decline in production demand.

If PTXYZ use the PSAK 73 operating lease treatment scheme then the RoA will not be as good as with IMBT PSAK 107 treatment, as follow :

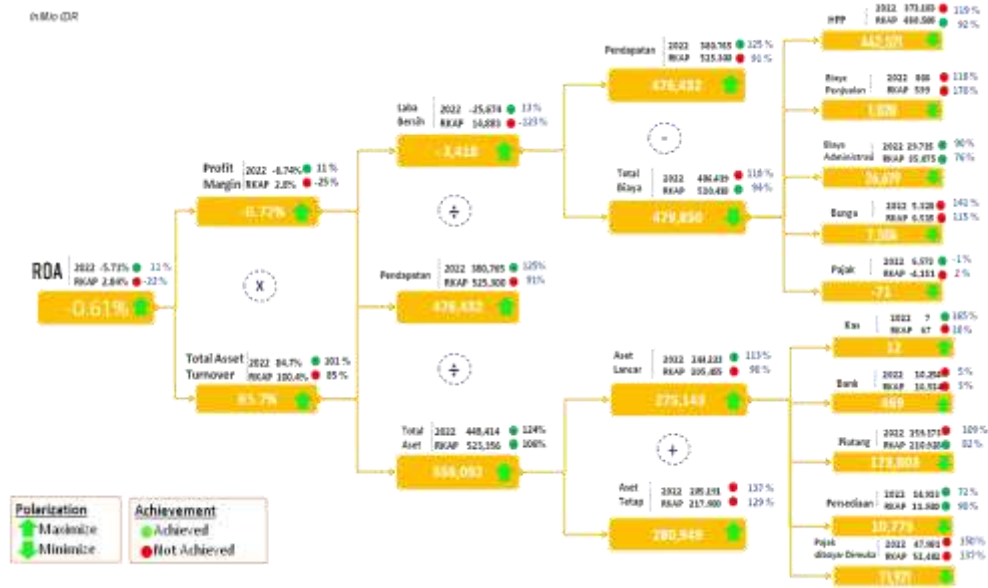


Fig 4.3 Dupont Analysis to Control Return On Asset with PSAK 73

Base on fig 4.3 dupont analysis to control return on asset with PSAK 73, the RoA (-0,61%) instead (-0,49%) under IMBT PSAK 107 scheme.

4.5 Manage Sustainability

4.5.1 Standard Operation Procedure

To ensure that the results of this research can be continuously maintained so that quality productivity is achieved and the correct and safe operation of dump trucks is always implemented, one of the ways is to create a Standard Operation Procedure for the operation of equipment in Project-X.

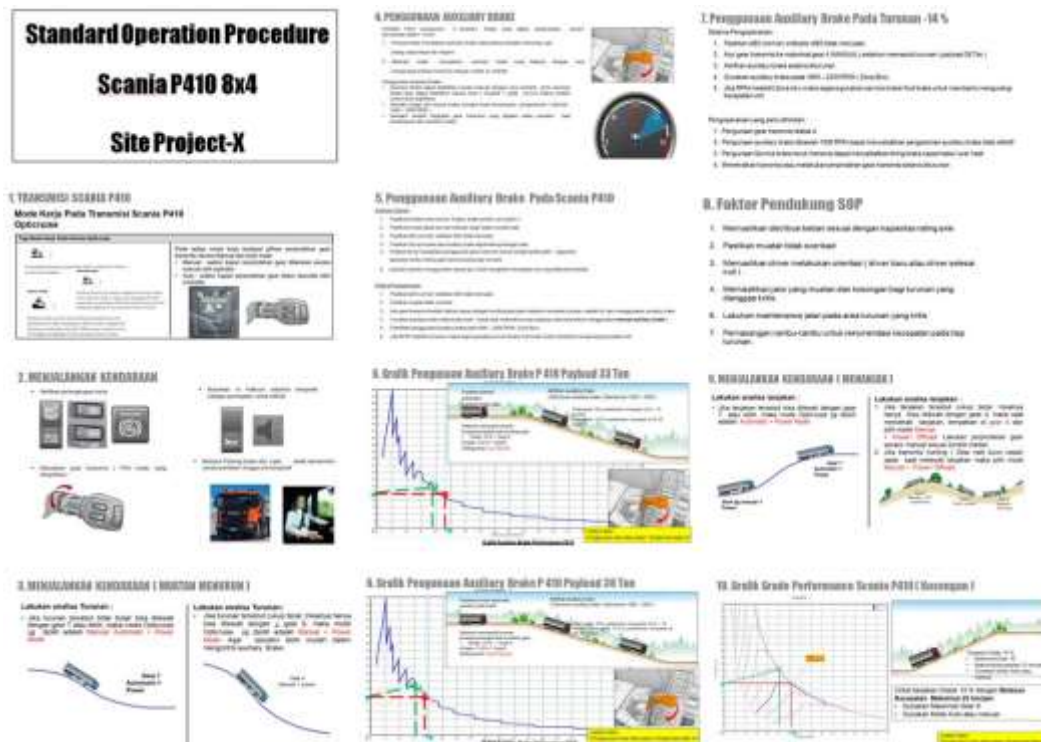


Fig 4.4 Standard Operation Procedure for Hauling Method

Refer to fig 4.4 SOP method, that this SOP was created by the team and has received approval from the client. And it has been socialized to stakeholders so that quality and costs can be managed in a measurable manner in project-X.

4.5.2 Develop New Role Organization

The research results that have a positive impact also need to be ensured that they are well implemented, so that there are additional business processes in the organization, namely process data control carried out by Mine Service. Mine service is a new role that previously did not exist in the Project-X organization.

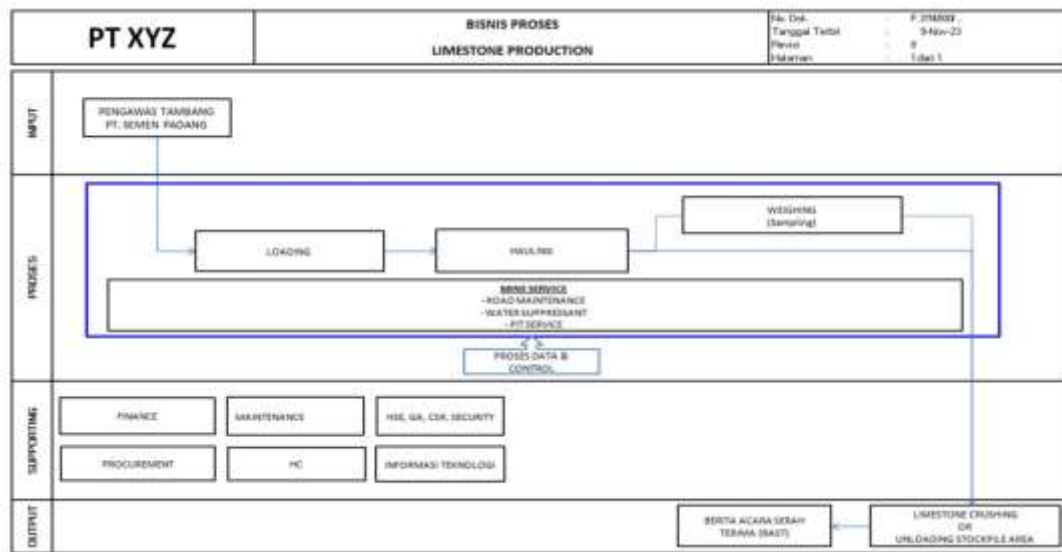


Fig 4.5 Additional Business Process for Project Control

Refer to fig 4.5 additional business process for project control, this is necessary because it will be something new and part of change management so that organizational aspects need to be developed. This organizational section is under the project manager of Project-X but is functionally coordinated with the head office engineering department that will monitor daily parameter operation .

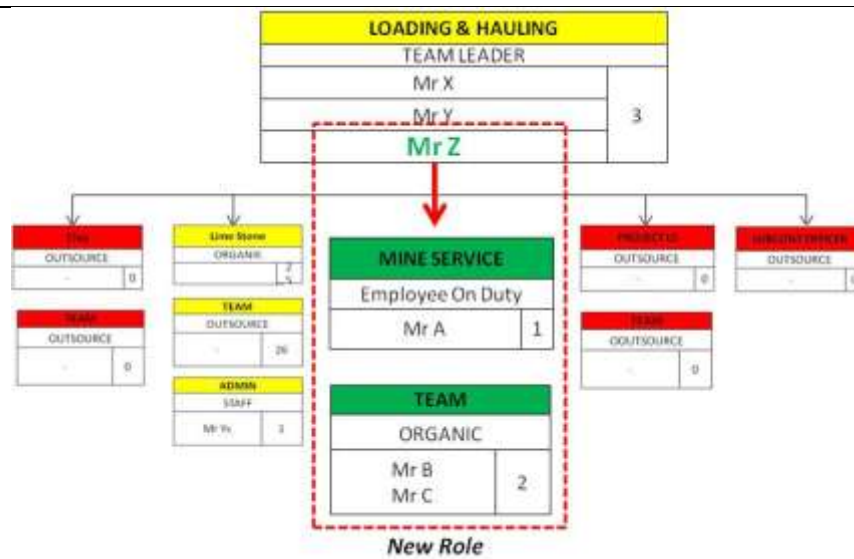


Fig 4.6 Additional New Structure Organization at Project-X

Refer to fig 4.6 additional new SO at project-X, this organization must also carry out exploration improvements in supporting areas that may have a strong impact on the loading-hauling process, namely: boulder recovery, refueling strategy and others improvement that may required due to mining quarry very dynamic.