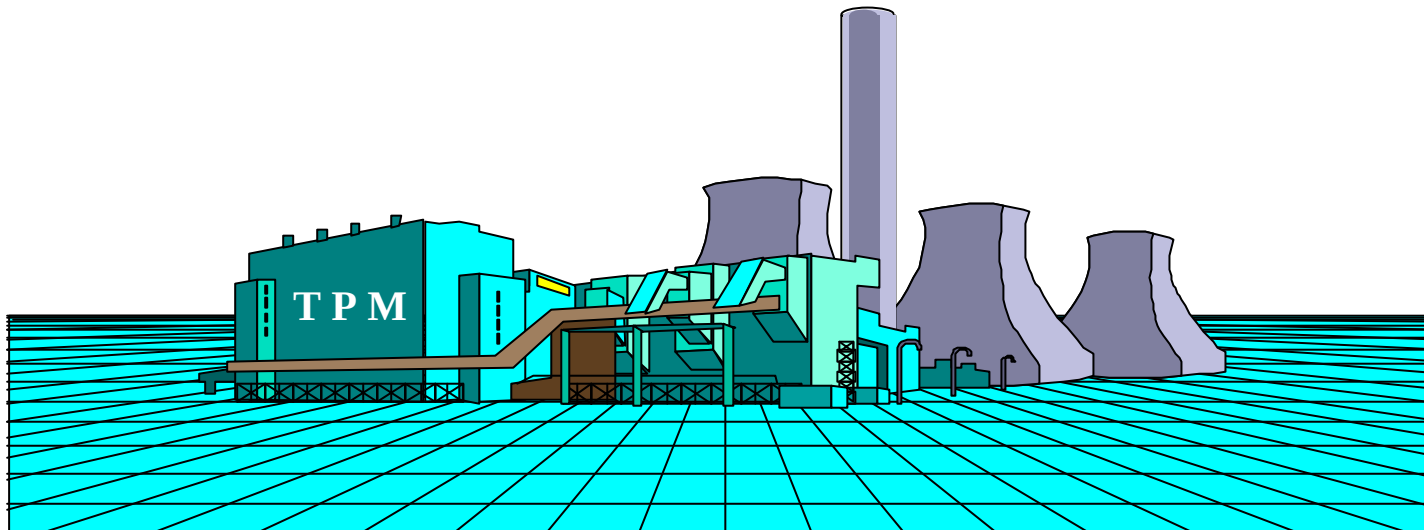


KSA-TPM OJT



2003. 1. 20

KSA 한국표준협회

TPM•

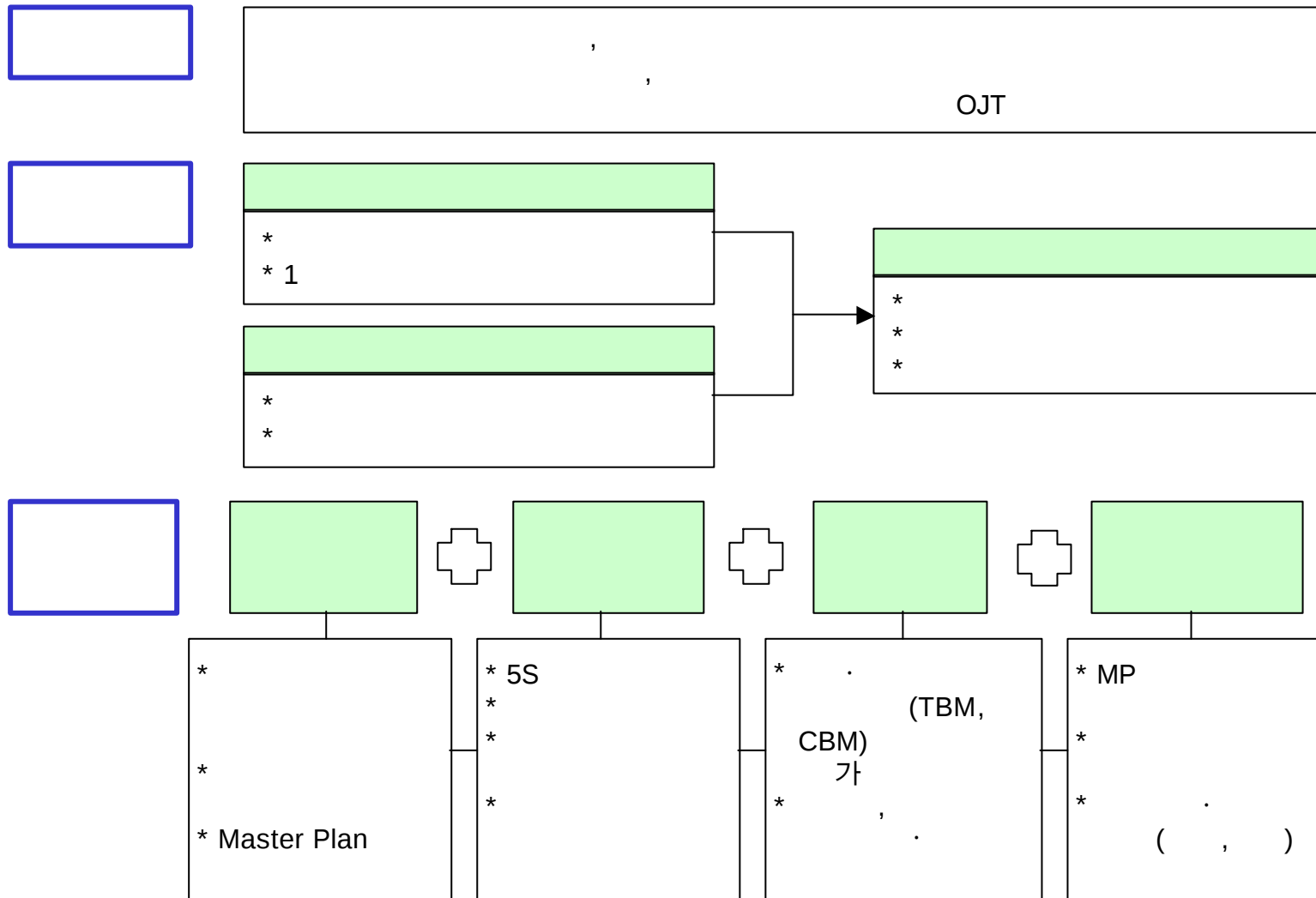
KSA-TPM OJT지도 안내

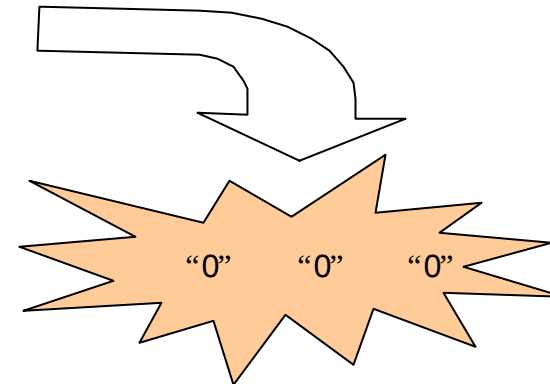
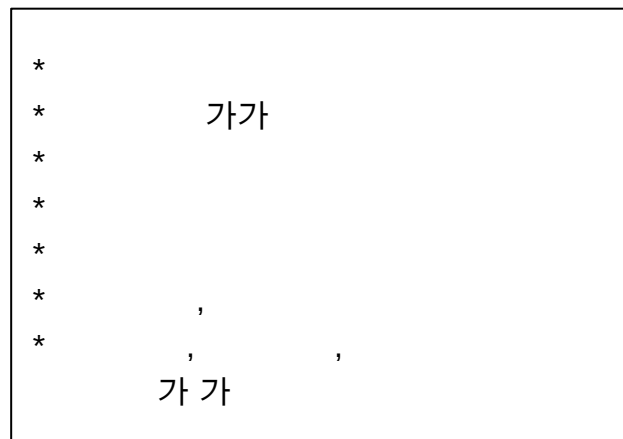
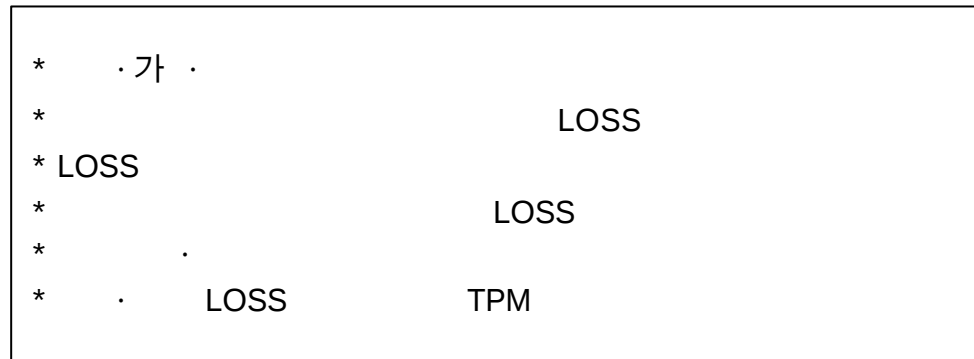


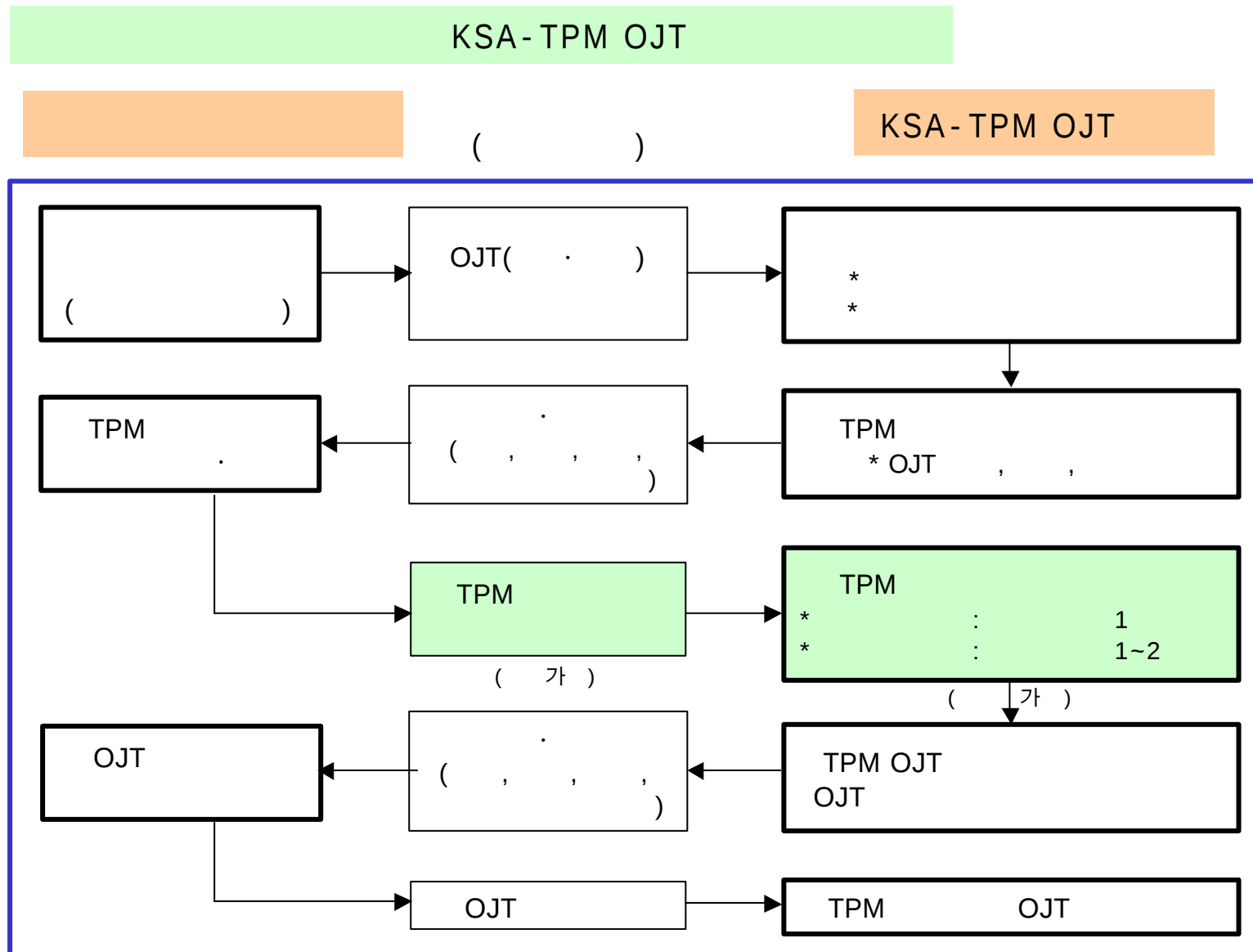
OJT TPM ! KSA-TPM OJT

KSA - TPM OJT	TPM	•	TPM OJT
KSA - TPM OJT	TPM		OJT
TPM			OJT
Productivity, Cost, Quality			
		OJT	
Performance	OJT		

KSA - TPM OJT







KSA - TPM OJT

TPM , , TPM

(/Fax/E - mail)

.

.

(#1) TPM ()

(#2) TPM ()

(#3) TPM ()

(#4) TPM ()

: Tel : 02-6009 -4741~8

Fax : 02-6009-4749

e-Mail : kjh@ksa.or.kr

OJT(.)

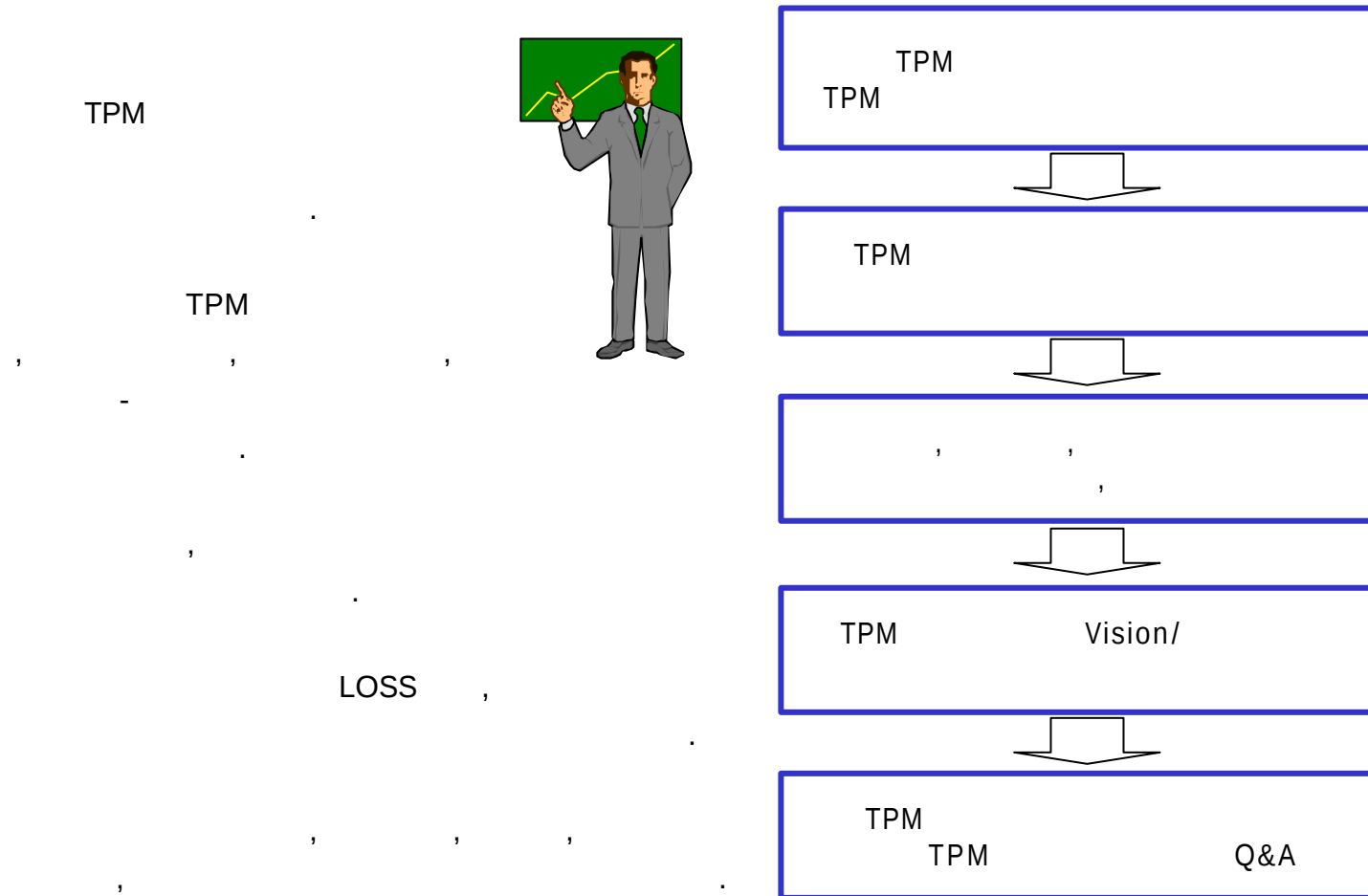
*
*
* , TPM

* Top ,
* , ,

TPM
* OJT , ,

TPM OJT TPM

KSA-TPM OJT

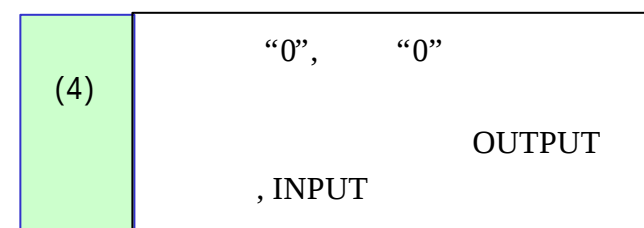
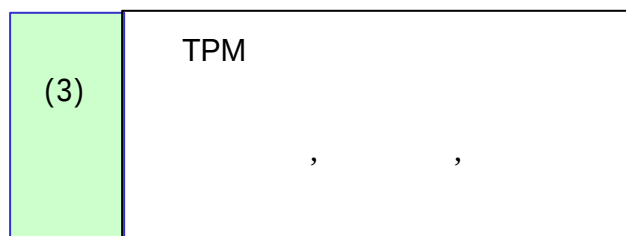
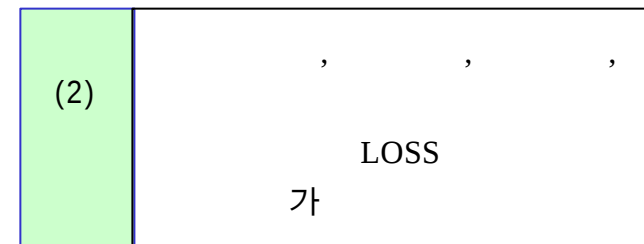
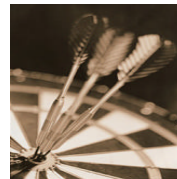
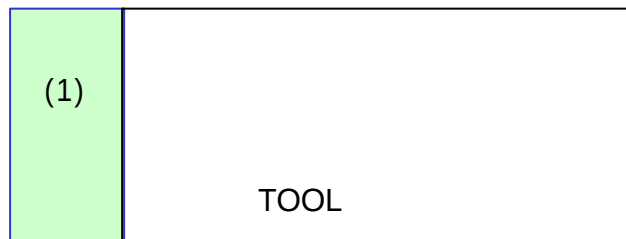


KSA - TPM OJT

KSA-TPM OJT	TPM OJT	.
TPM	OJT	OJT

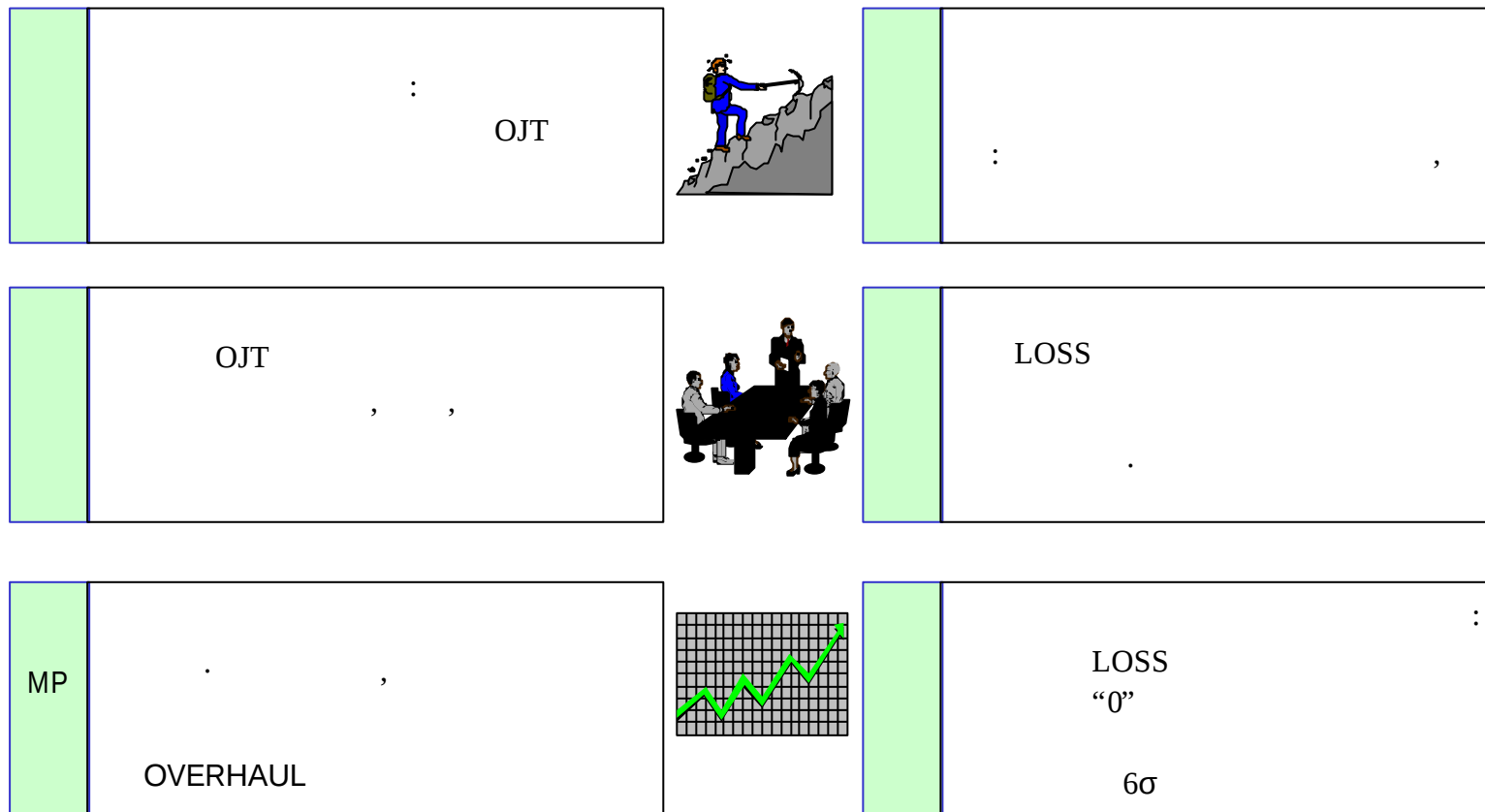
KSA-TPM OJT

TPM



KSA - TPM OJT

OJT가



KSA-TPM OJT지도 방법론



KSA-TPM OJT

TPM

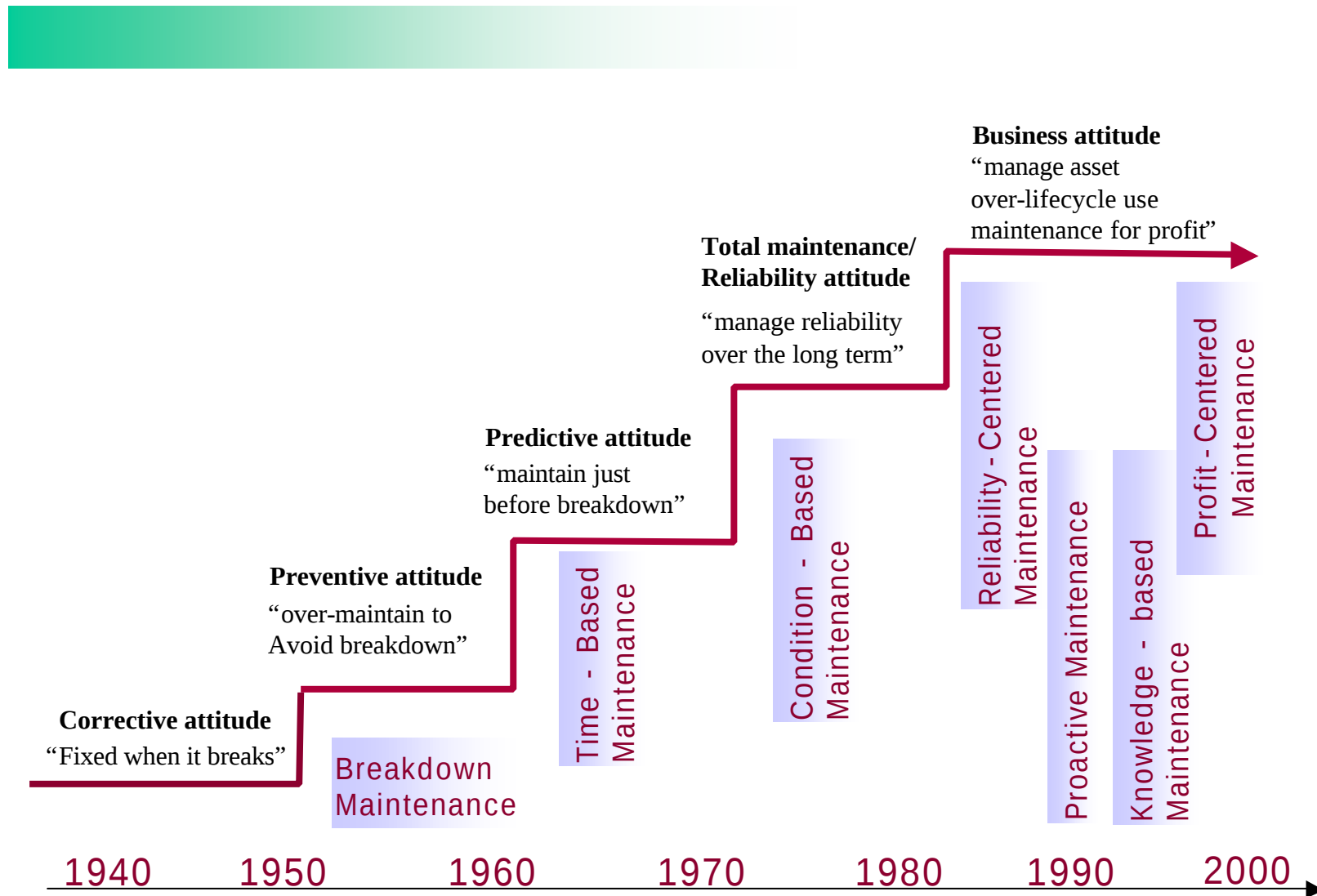
TPM OJT

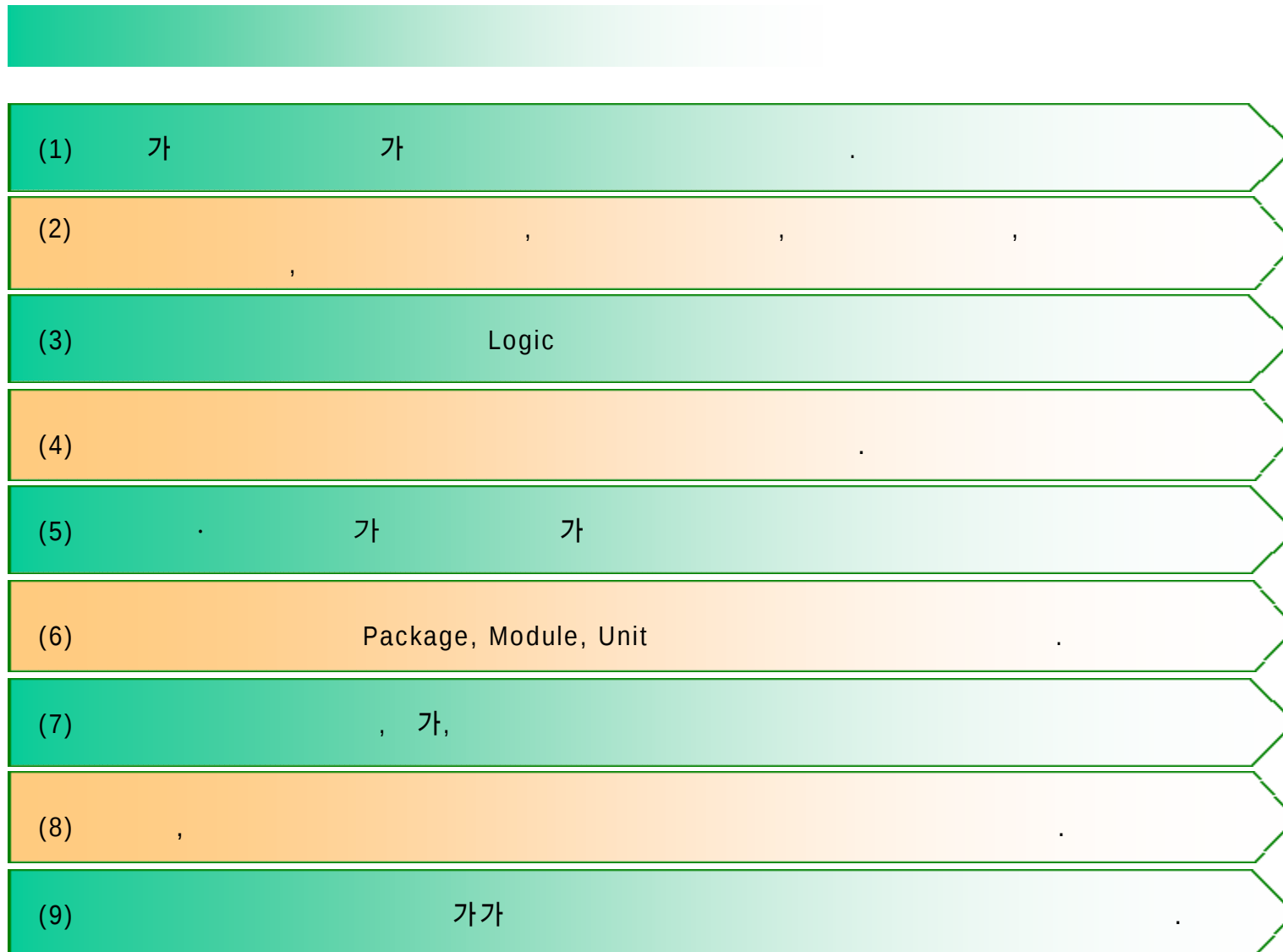
, TPM 가 TCR 123, 6

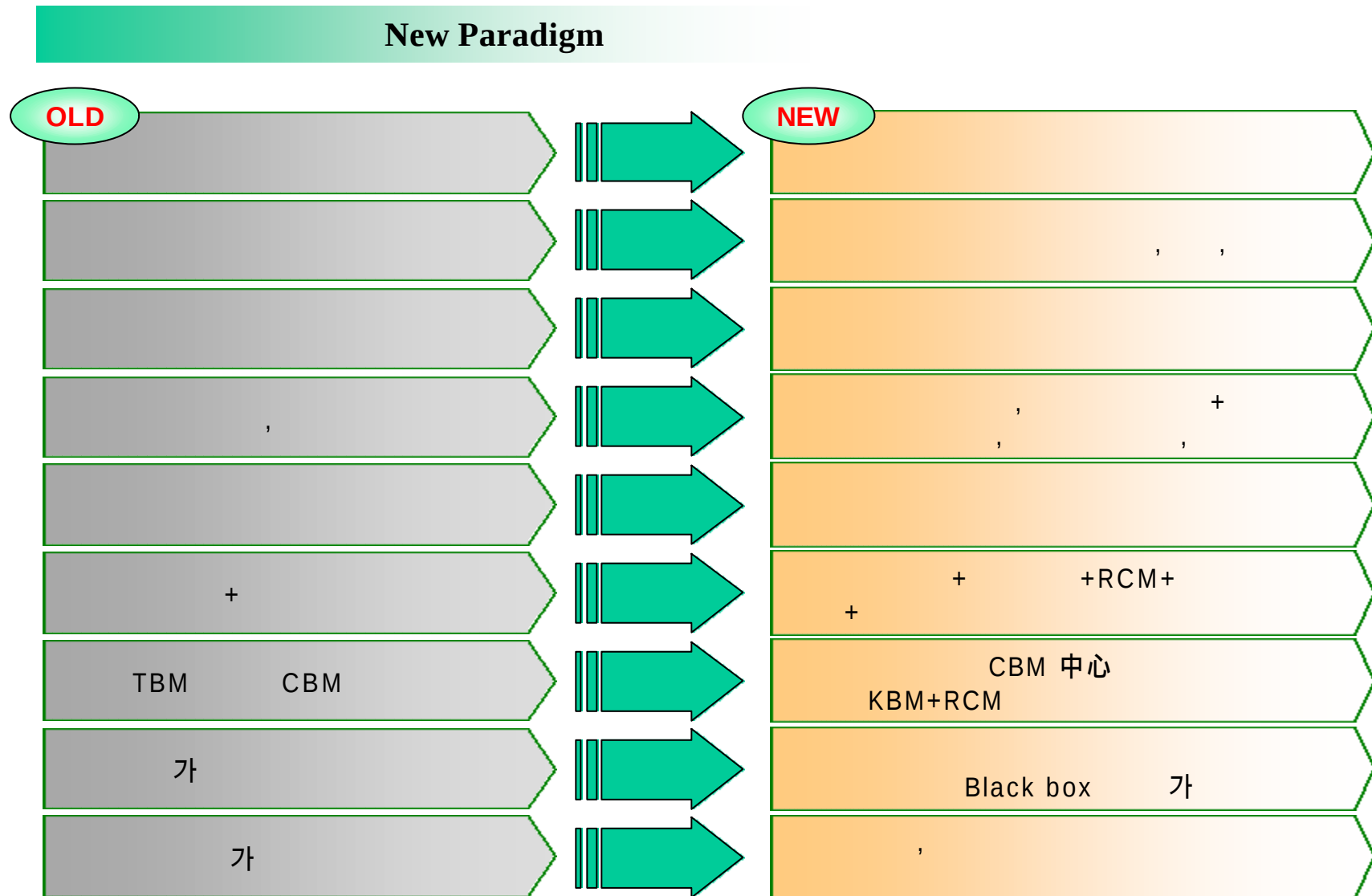
, MPR, OJT TPM

TPM ()

Needs



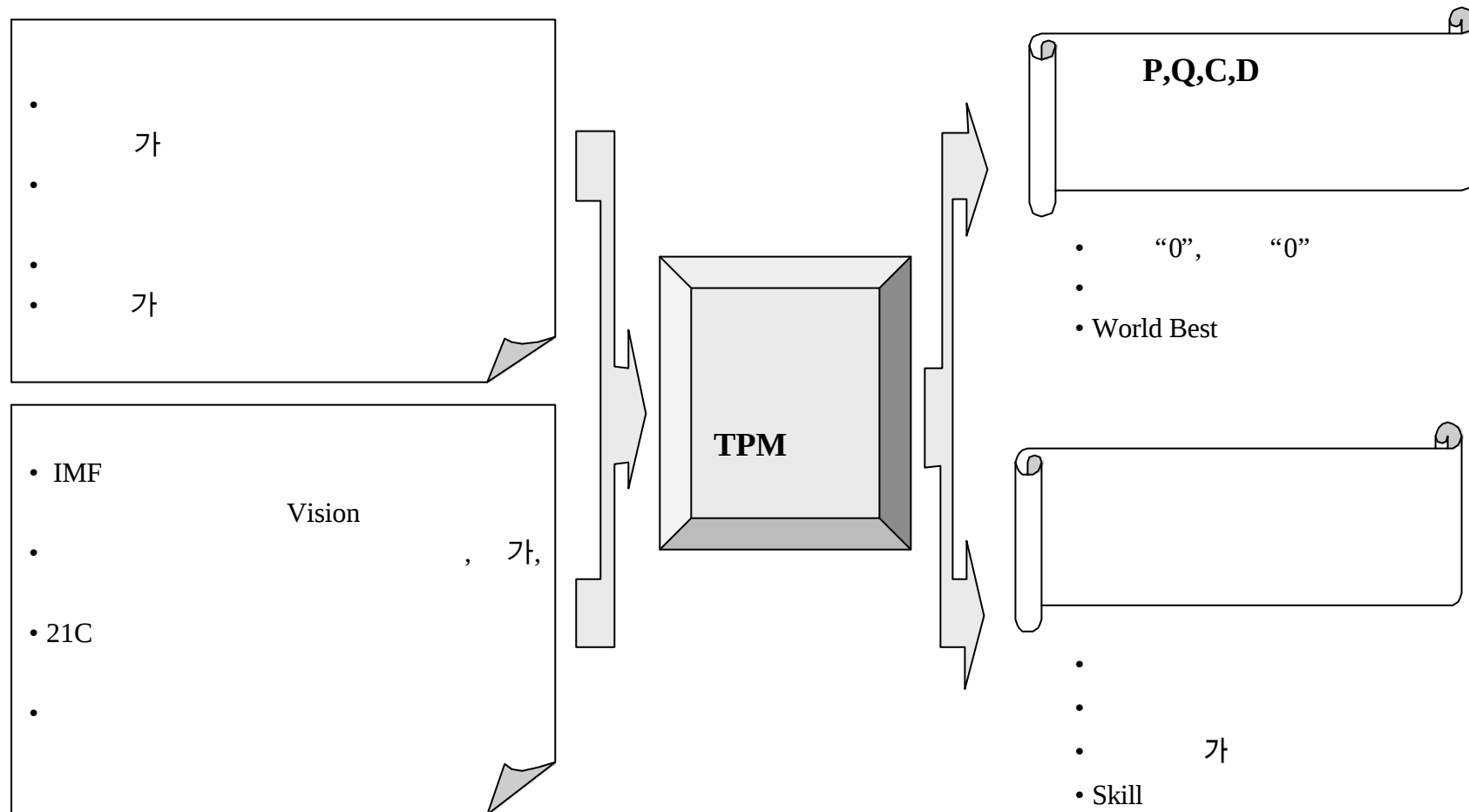






- ❖ .
- ❖ .
- ❖ .
- ❖ .
- ❖ 가 .
- ❖ .
- ❖ , .
- ❖ .

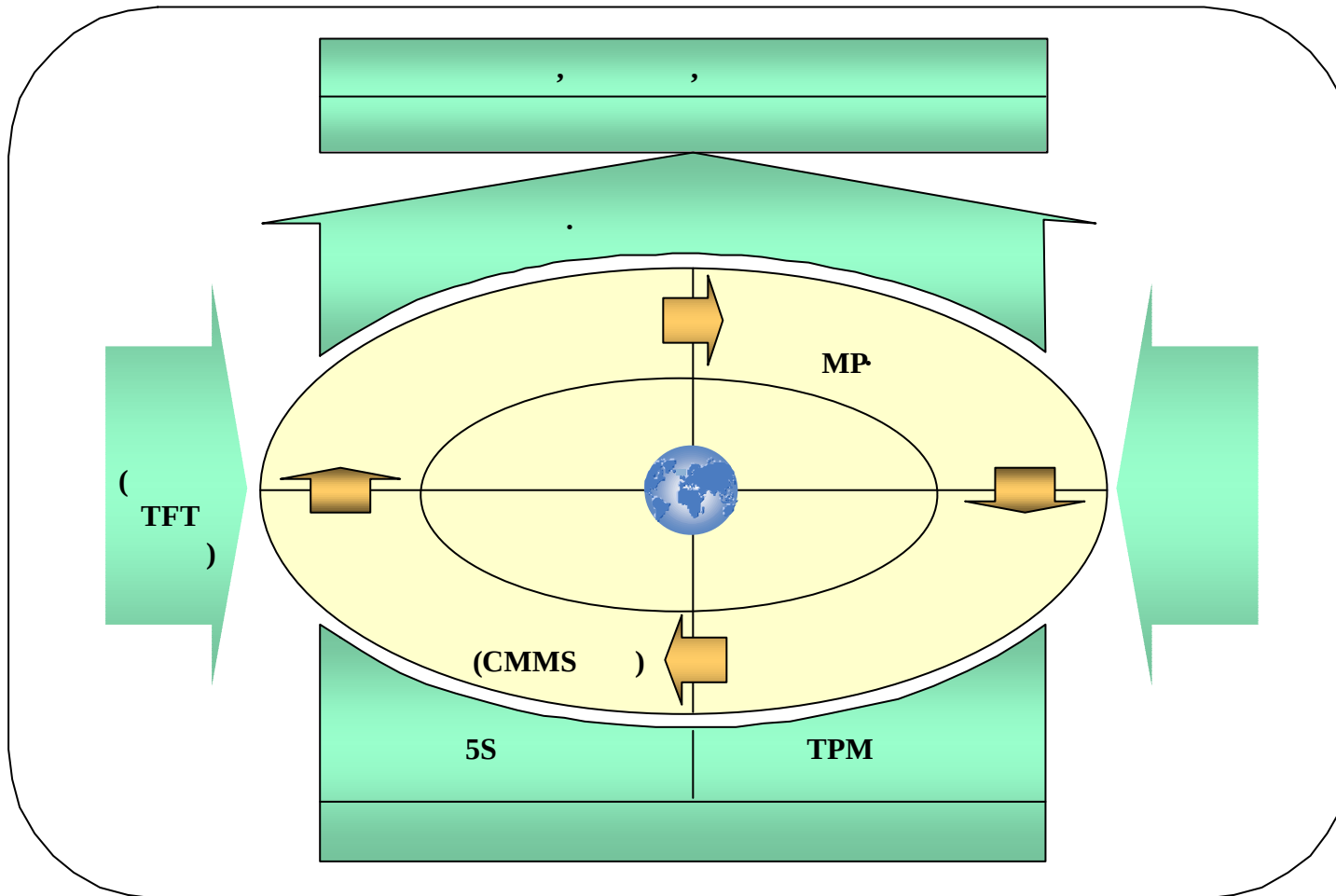
TPM

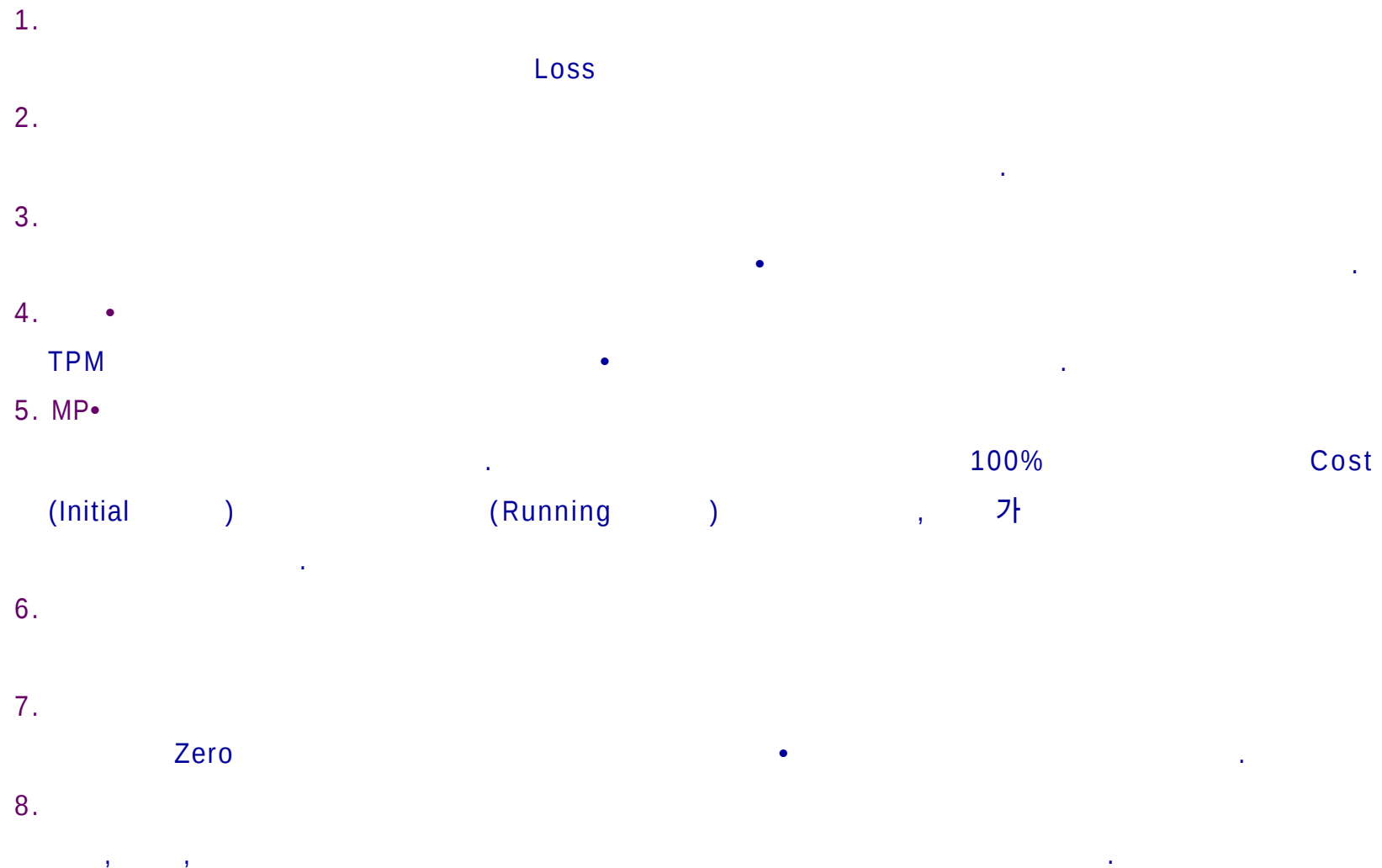


TPM(Total Productive Maintenance) ?

- ()
 손 , .
- Zero, Zero, Zero
 Loss
 손 . ()
- , ,
 손 .
- Top 가
 손 .
 가 .
- , Loss Zero
 손 Base
 손 Zero . (Zero)
 손 .

TPM



TPM 8

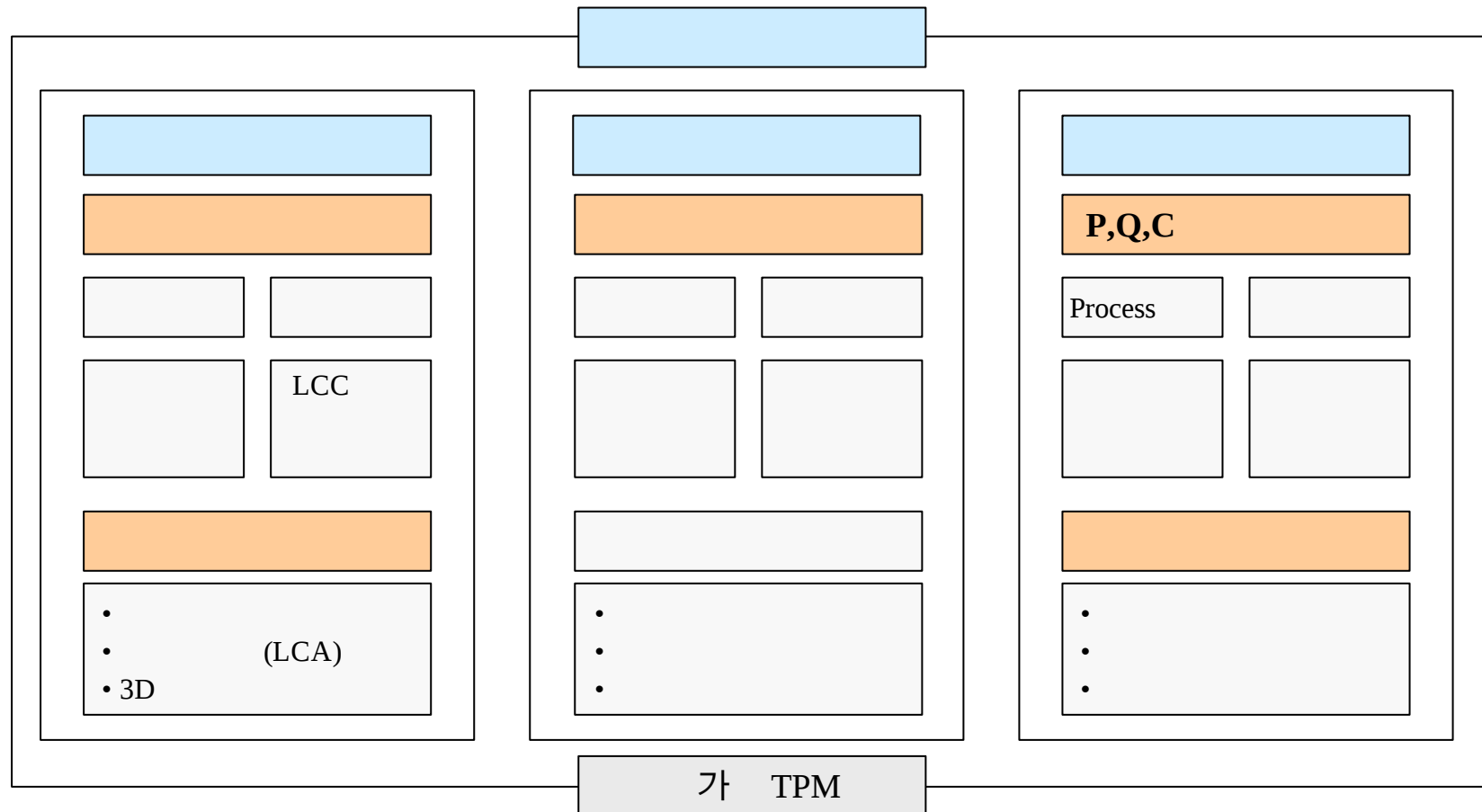
TPM

가 TPM

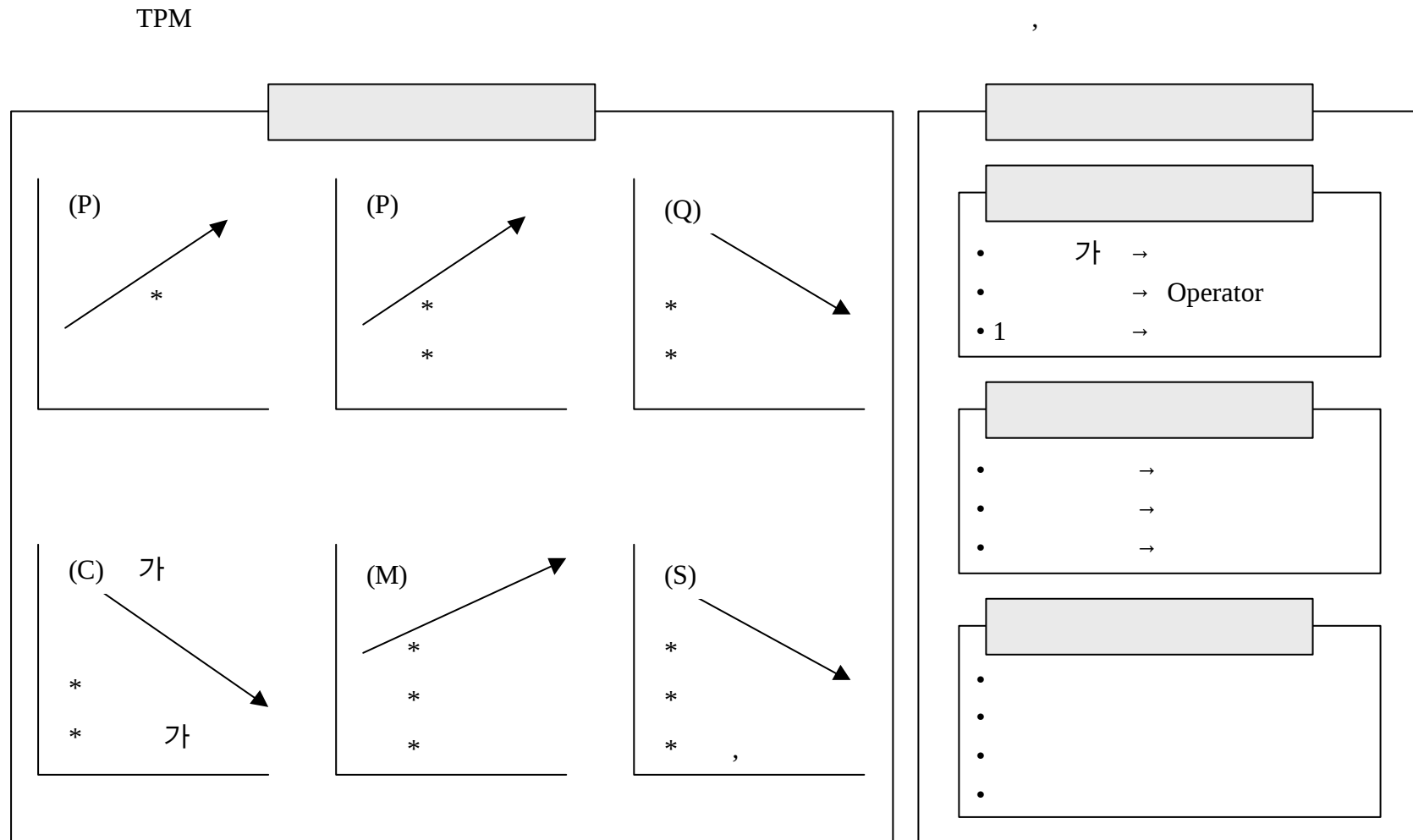
가

, 가

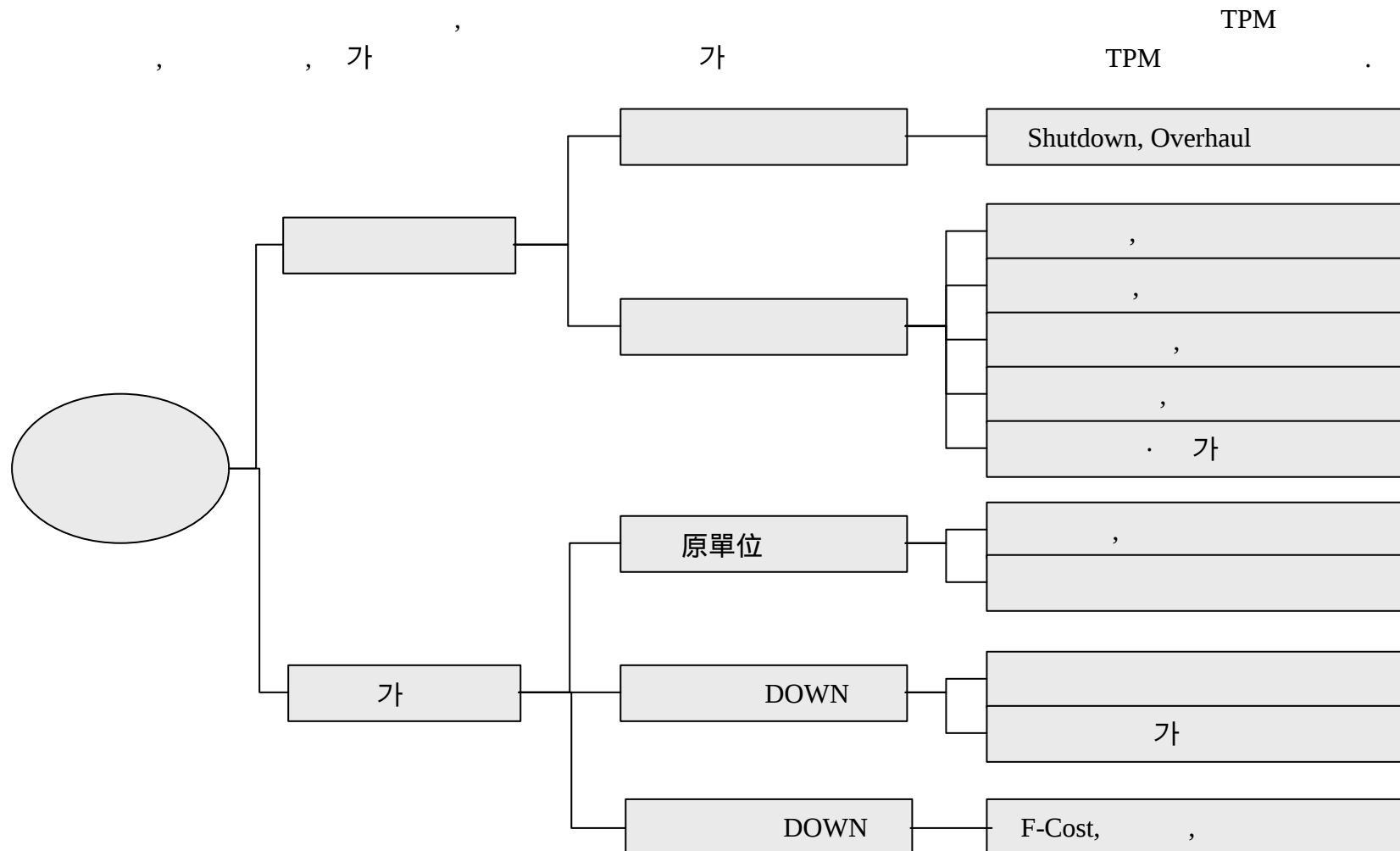
TPM



TPM



TPM



TPM 10가 :

- 1) TPM Top (), TPM .
- 2) (=) , TPM .
- 3) Top Back-up 가 .
- 4) , Loss .
- 5) , .
- 6) , .
- 7) , TPM , TPM .
3 가 TPM .
- 8) 가 , TPM , .
- 9) , 4 .
- 10) Key, 가 , .

TPM

TPM	• • • • • Master plan • TPM • • Kick-off • • 5S	TPM TPM		/ , TPM /				
				가				
		LOSS			LOSS			
MP		5S	MP ,			가		
		Loss			Loss Know-Why, PM			
		TPM () TPM /	TPM ()		TPM ()			
					가 ,			
		()						

TPM

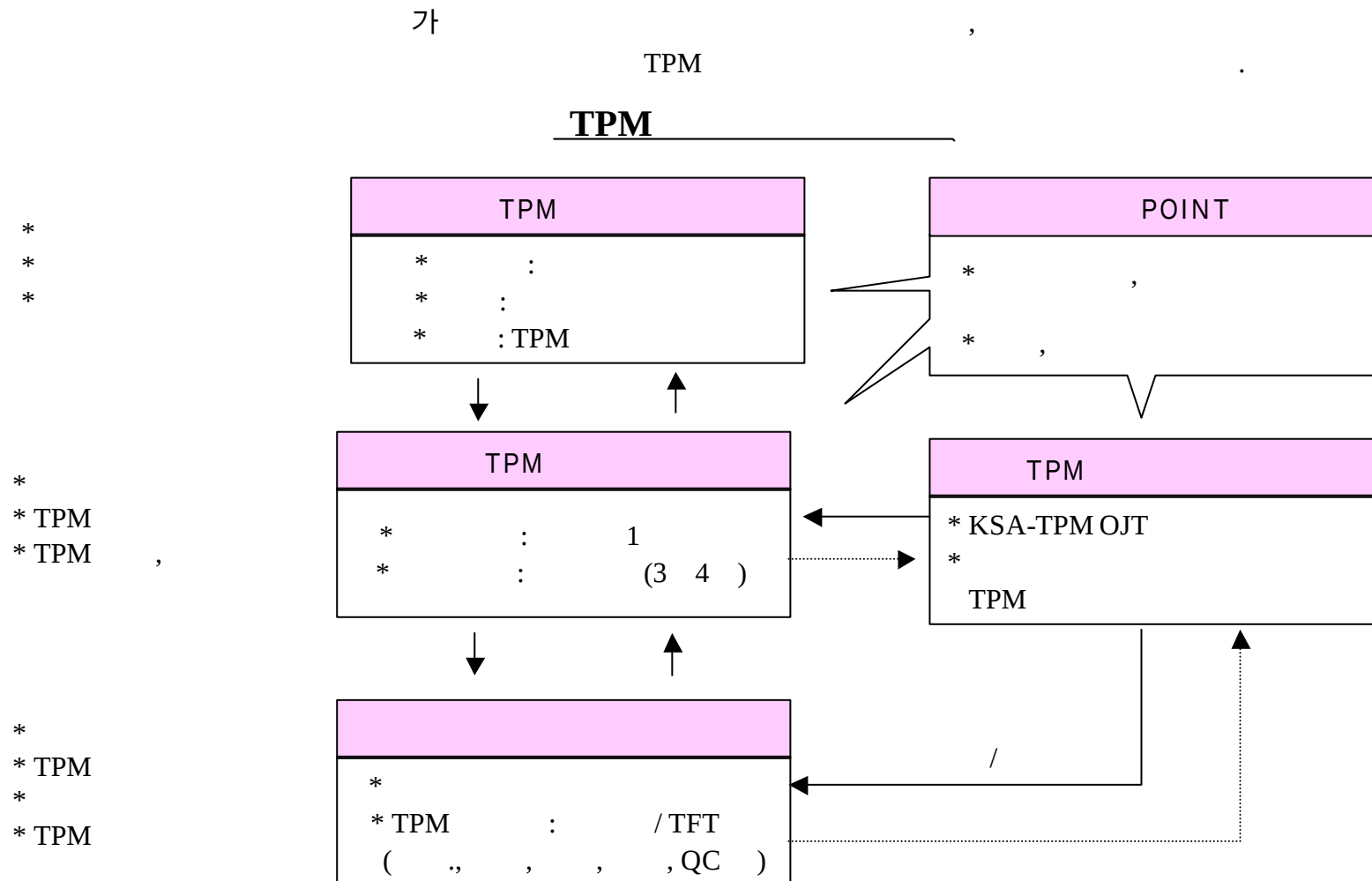
[illegible]

MP	가 , MP	* (0 6) * ; , , , , , , , , , , , , , , () * , * , * FMEA, FTA, * MP , MP 가 * Debugging ,
	TPM	* TPM (TPM) * (,) * OPL() , , , * ,
,UTY	UTY	* , UTY * 危害 * , * Skill-Up
		* * 5S Filing System * 가 * TPM

TPM (OJT)

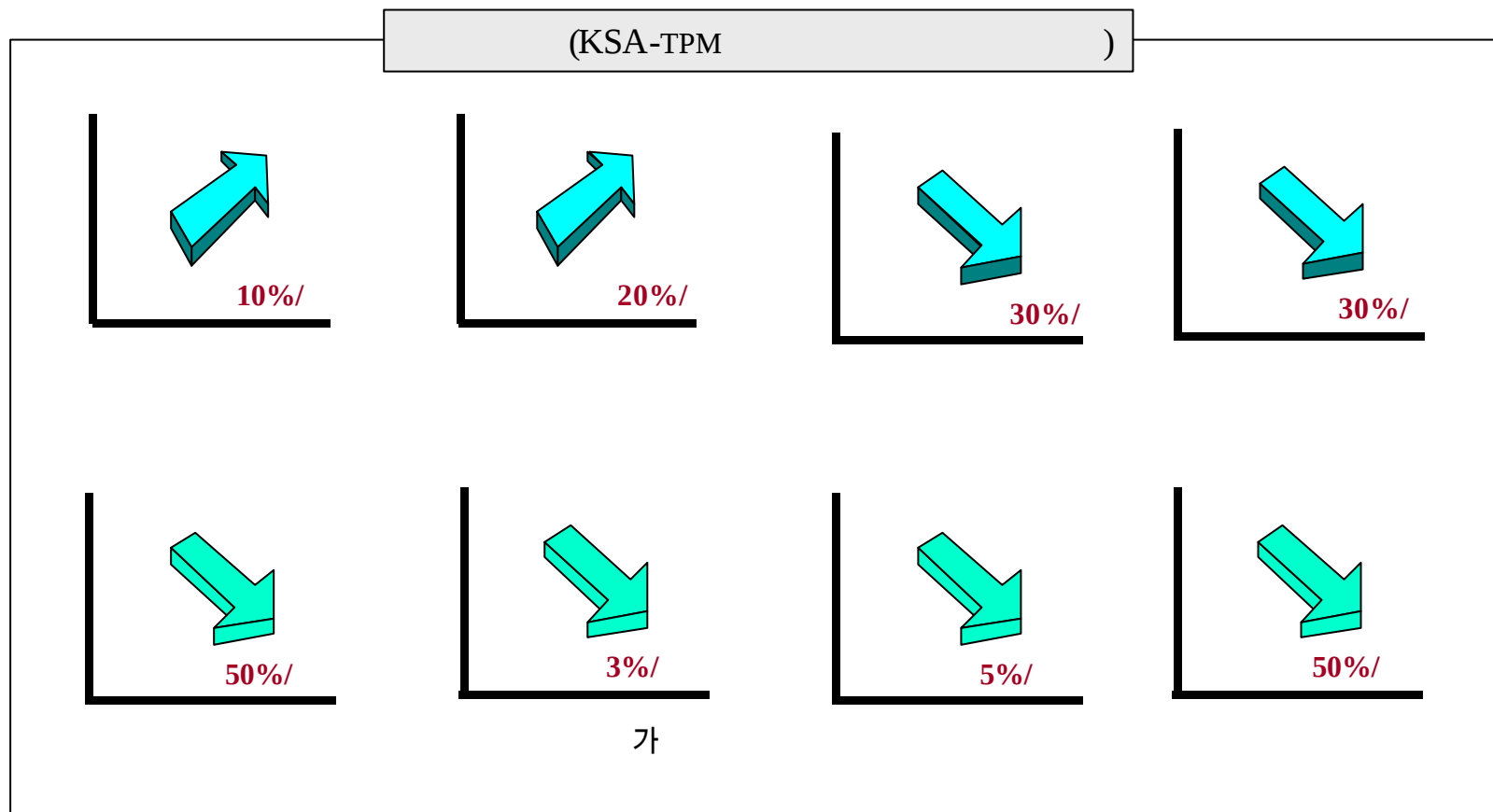
1. TPM	* TPM (2001 1/4)	2
2. Slogan	* Slogan * (,)	2
3. TPM	* : 가, * : TPM * : TPM * : , TPM ()	2~3
4. TPM , (OJT)	* TPM * TPM * TPM * TPM () * TPM TPM * TPM * TPM * TPM	2~3
5. TPM	* ' , * TPM (,)	4 1
6. TPM ()	* TPM TPM * TPM : (/)	4

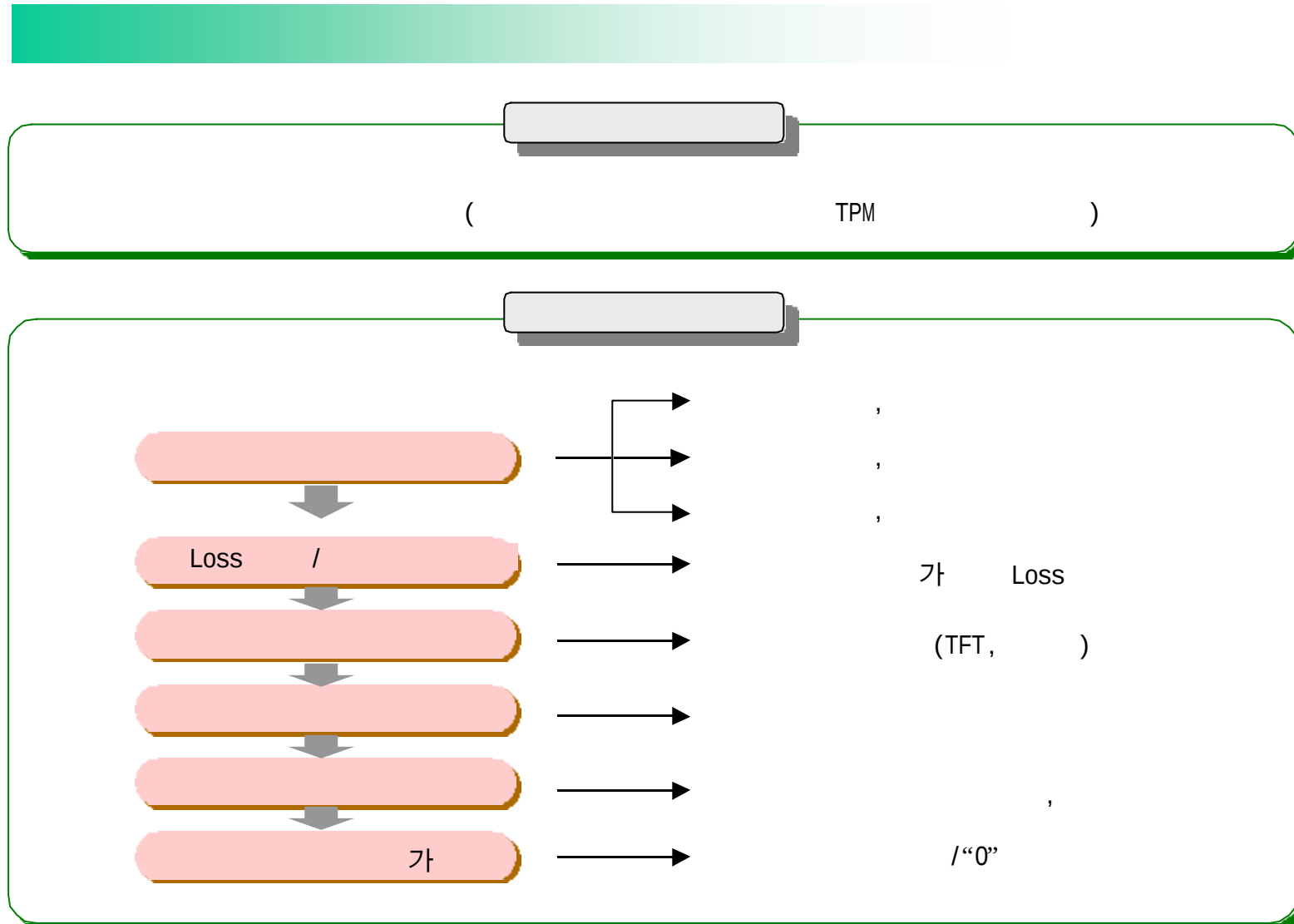
TPM

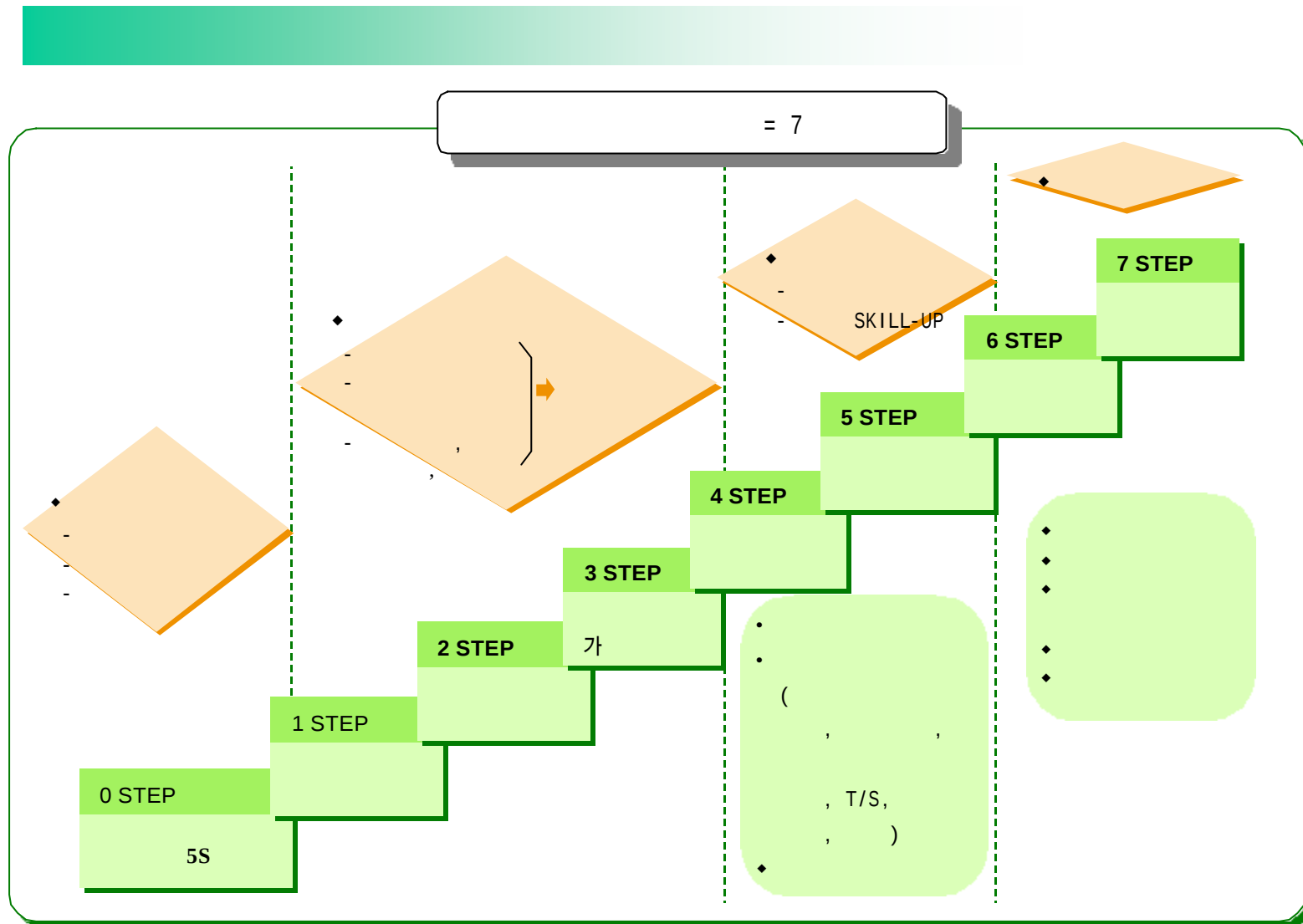


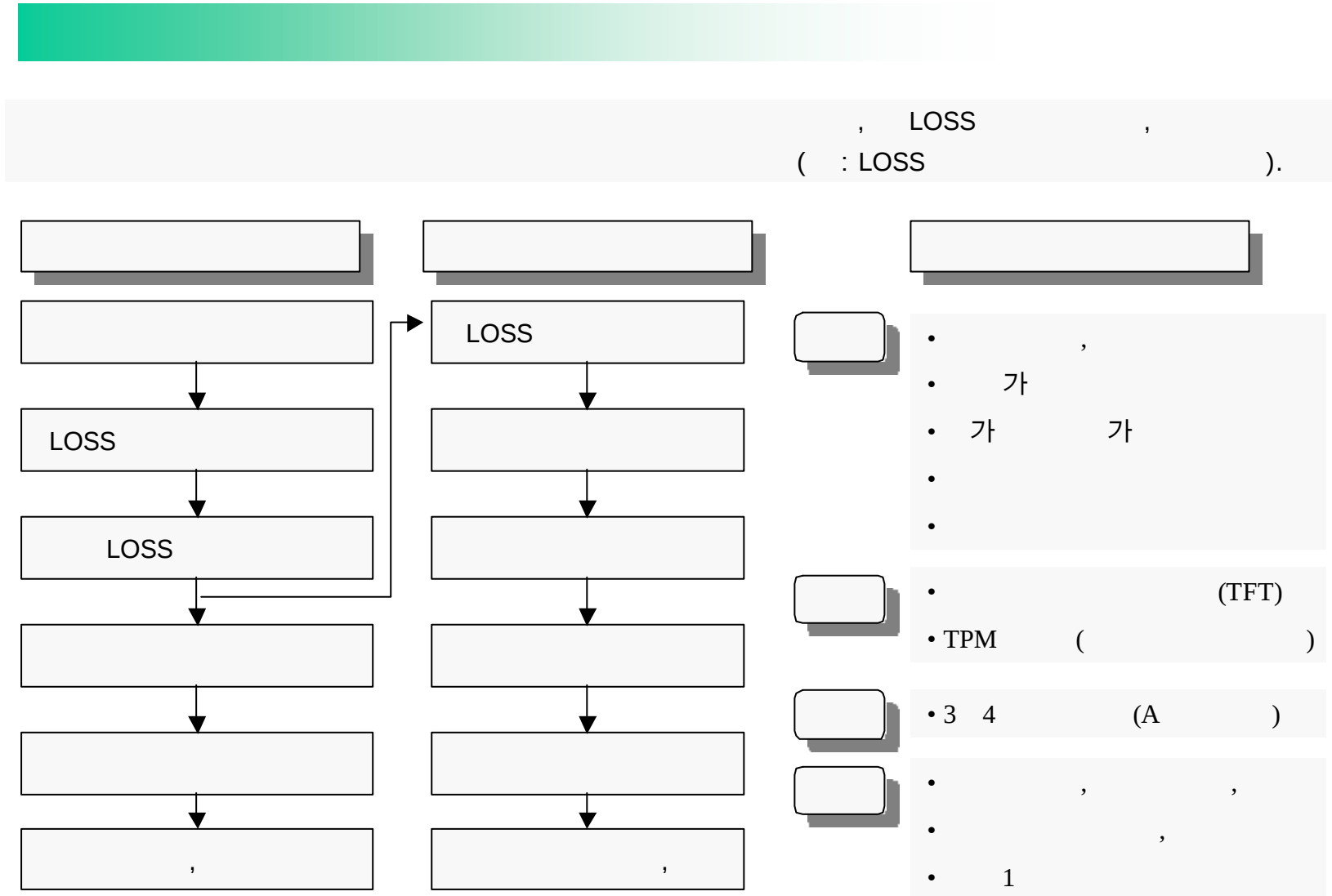
TPM

TPM . (TPM , , .)

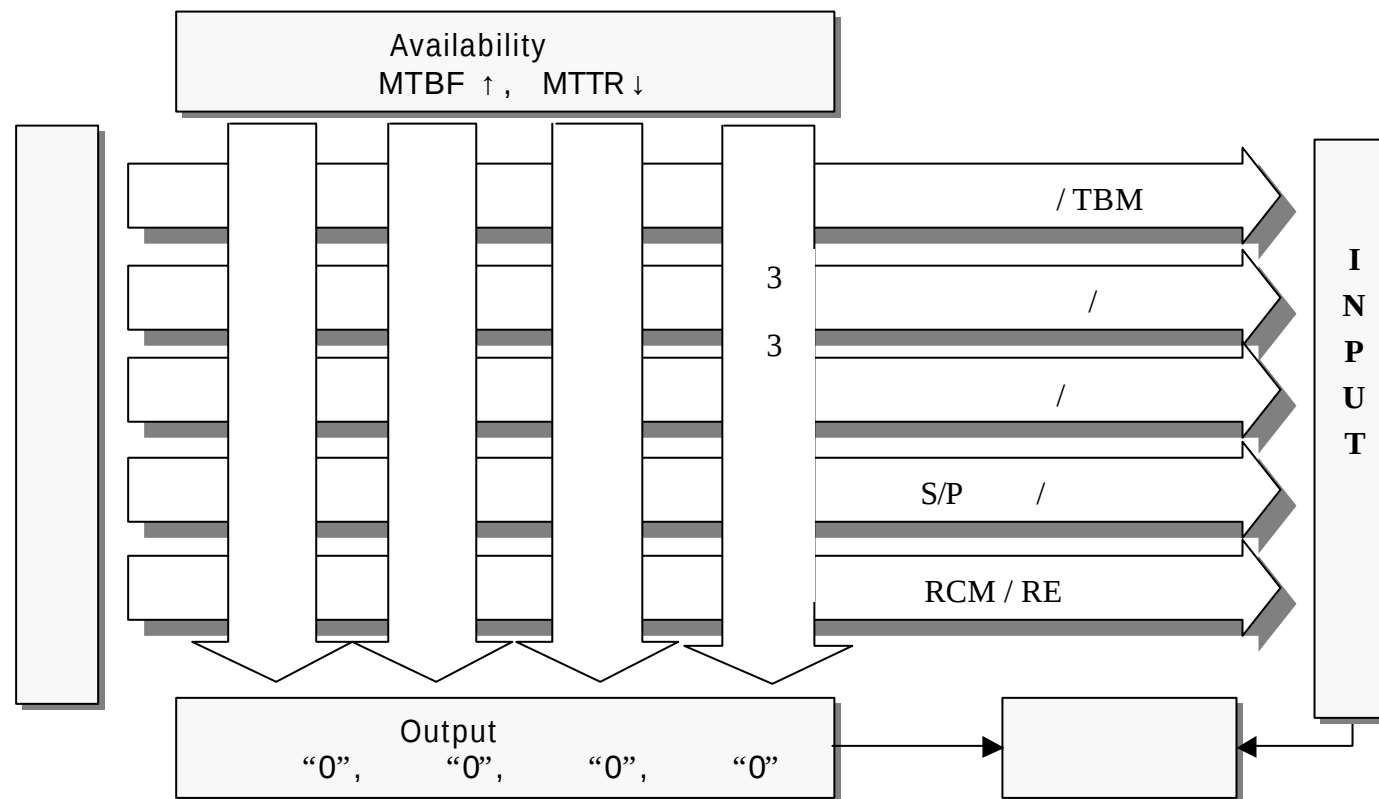




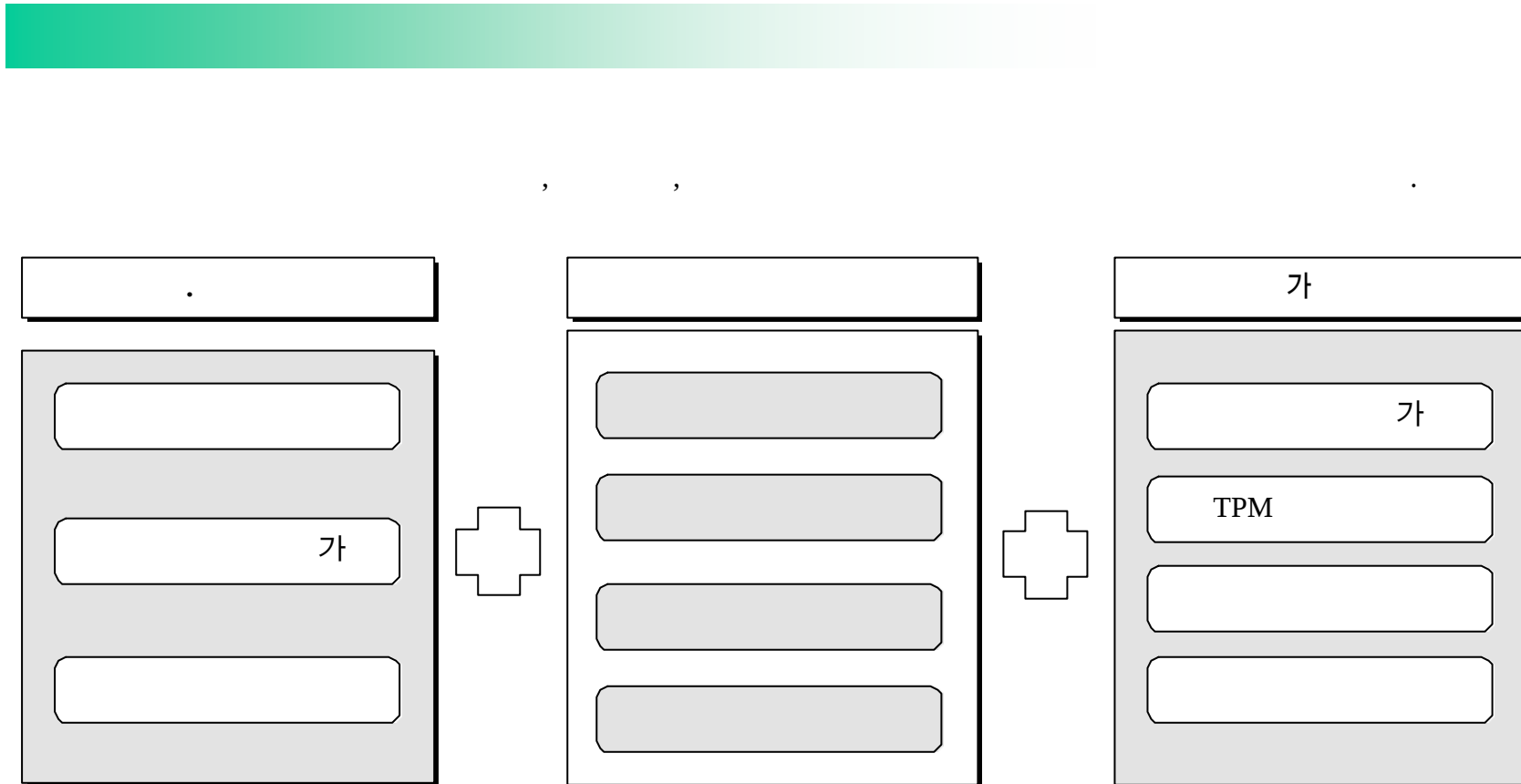




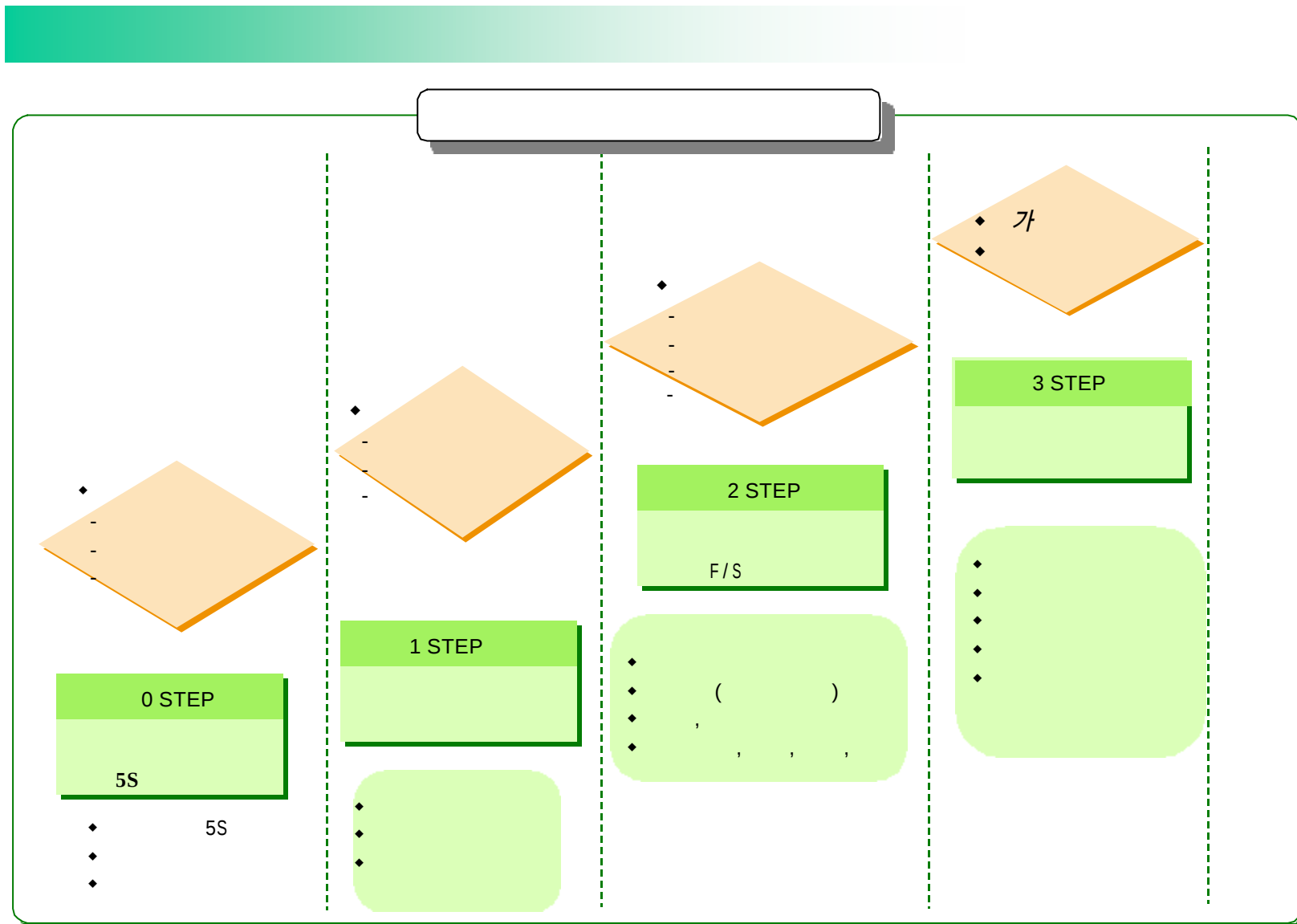
가 (Availability) ,

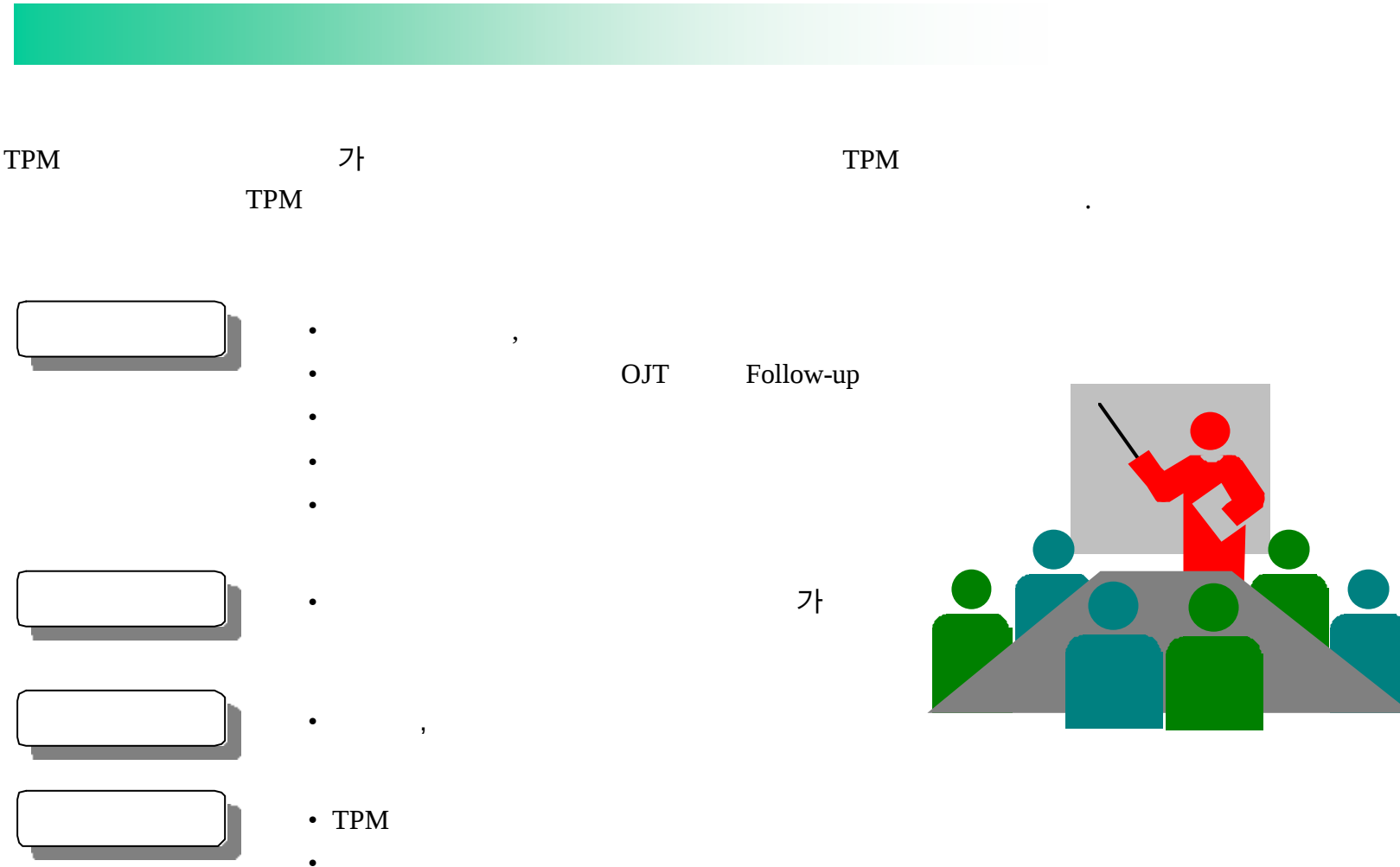






	PHASE I	PHASE II	PHASE III	PHASE IV
		,	,	,
		,	, TPM	,





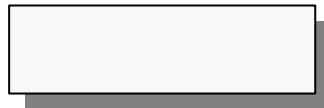
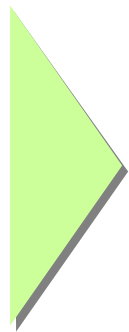
TPM

- (1) : Needs .
- (2) :
 * 가 TPM 가 .
 * TPM (TPM OJT).
- (3) :
 * : 180,000 (VAT , OJT)
 * : 2 (가)
- (4) : KSA-TPM
- (5) : 1 3 (20) 가 (40~60%)
- (6) KSA-TPM TPM (TPM)

	TPM	Why-TPM, TPM ,	1	1
		Why-TPM, 5S, , , Tool	3	1
가	TPM 가	Why-TPM, 5S, , MP , , ,	4	1
		Why-TPM, 5S, , 가 , Tool	3	1

TPM

OJT



* TPM

* TPM

*



* TPM ()

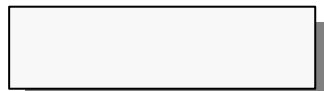
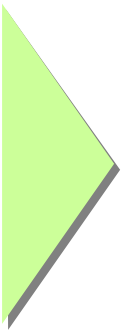
* ()



* , TPM

* 1

*



*

*



* OJT (가)

* , TFT

*



LEVEL-UP

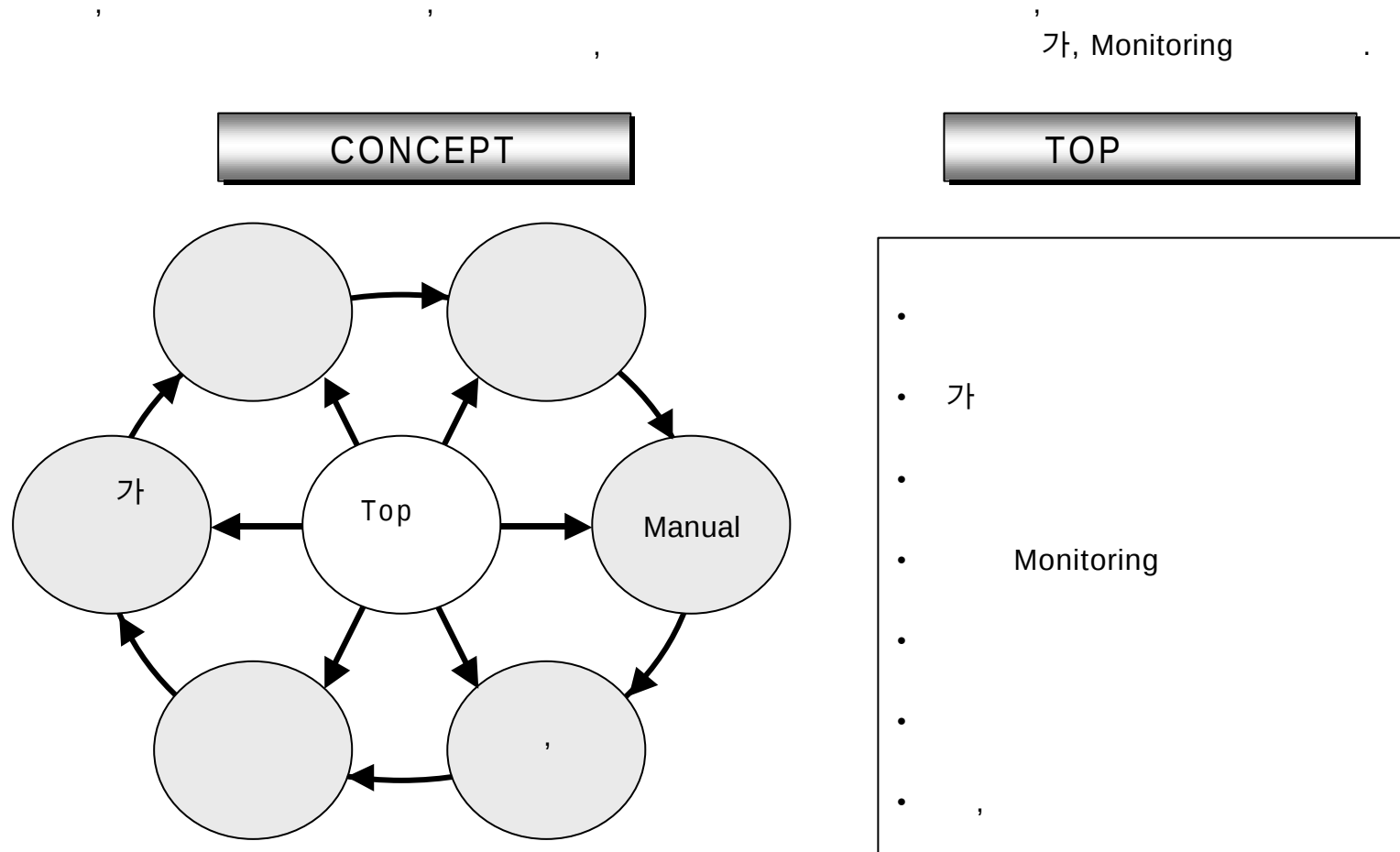
* ,

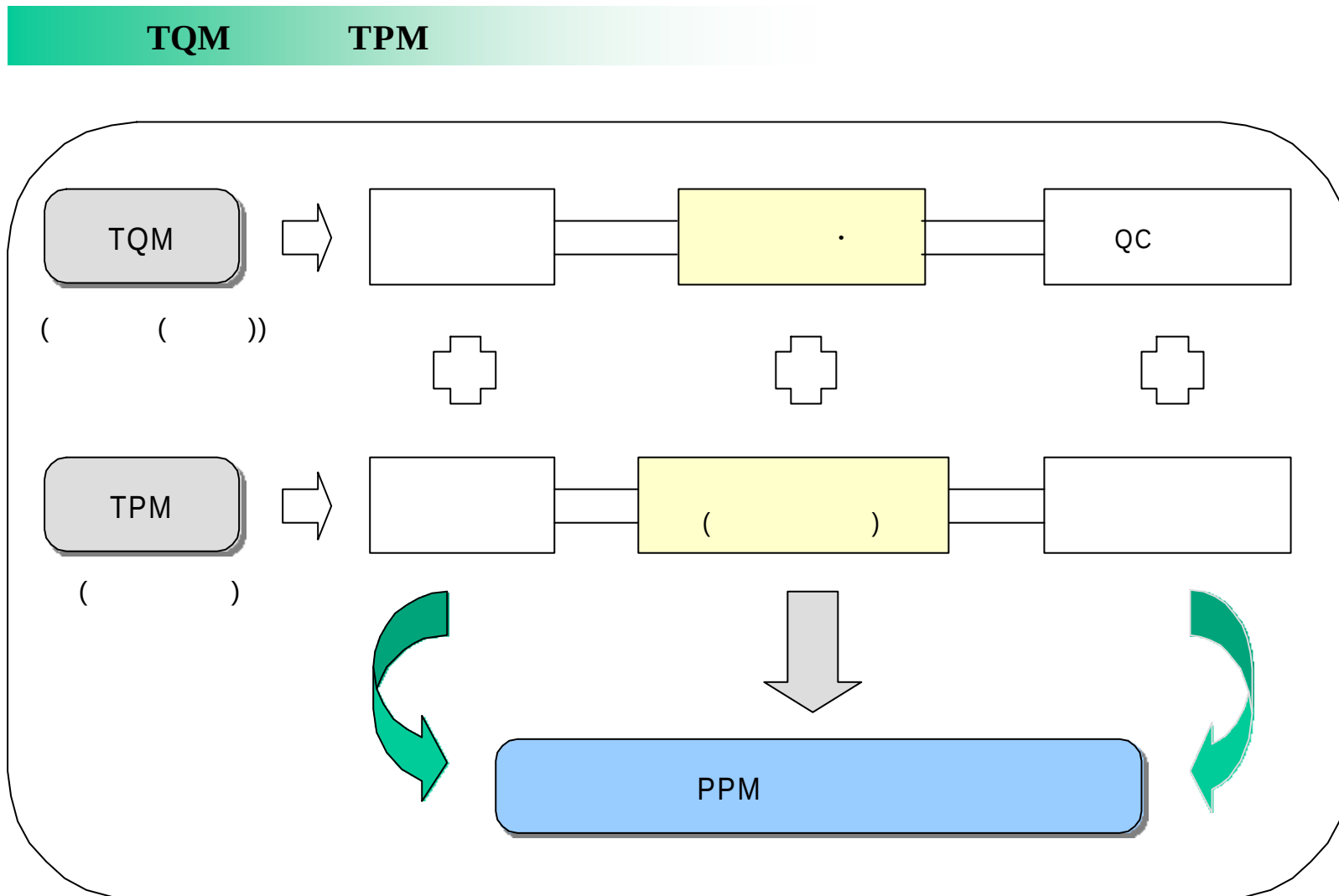
OJT

TPM

KSA-TPM

TPM





KSA-TPM OJT

TPM은 생산현장에서 발생하는 모든 문제를 예방하고, 고장, 불량, 손실, 안전사고 등을 방지하여 생산성을 극대화하는 것을 목표로 합니다. TPM은 7대 활동으로 구성되며, 각각의 활동을 통해 TPM의 효과를 극대화할 수 있습니다.

TPM의 7대 활동은 다음과 같습니다.

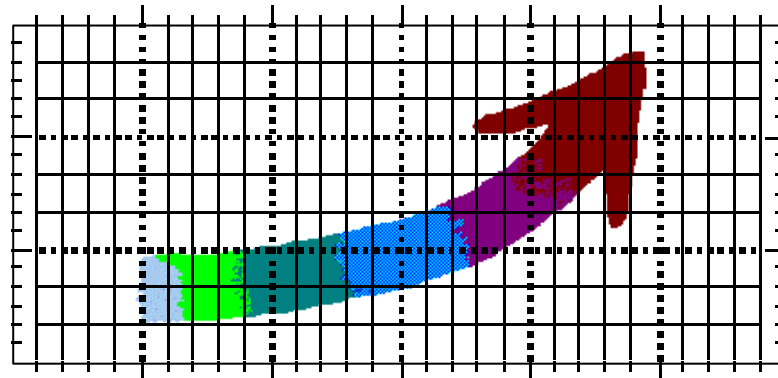
- P(Plan) : 계획 (TPM의 목표, 방침, 계획 수립)
- Q(Quality) : 품질 (TPM의 품질 관리)
- C(Clean) : 청소 (TPM의 청소 활동)
- D(Delivery) : 납품 (TPM의 납품 관리)
- S(Safety) : 안전 (TPM의 안전 관리)
- E(Energy) : 에너지 (TPM의 에너지 관리)
- M(Maintenance) : 유지보수 (TPM의 유지보수 활동)

TPM의 효과를 극대화하기 위해서는 RCM(신뢰성 중심 유지보수)을 도입하고, TPM의 7대 활동을 체계적으로 실시해야 합니다. 또한, TPM의 성과를 측정하고, 개선하는 것이 중요합니다.

TPM의 성과를 측정하기 위해서는 TPM의 성과를 측정하는 지표(예: 가동률, 불량률, 손실률 등)를 설정하고, 정기적으로 측정해야 합니다. 또한, TPM의 성과를 개선하기 위해서는 TPM의 성과를 분석하고, 개선해야 합니다.

TPM의 성과를 극대화하기 위해서는 TPM의 성과를 측정하고, 개선하는 것이 중요합니다.

KSA-TPM OJT지도 성과사례



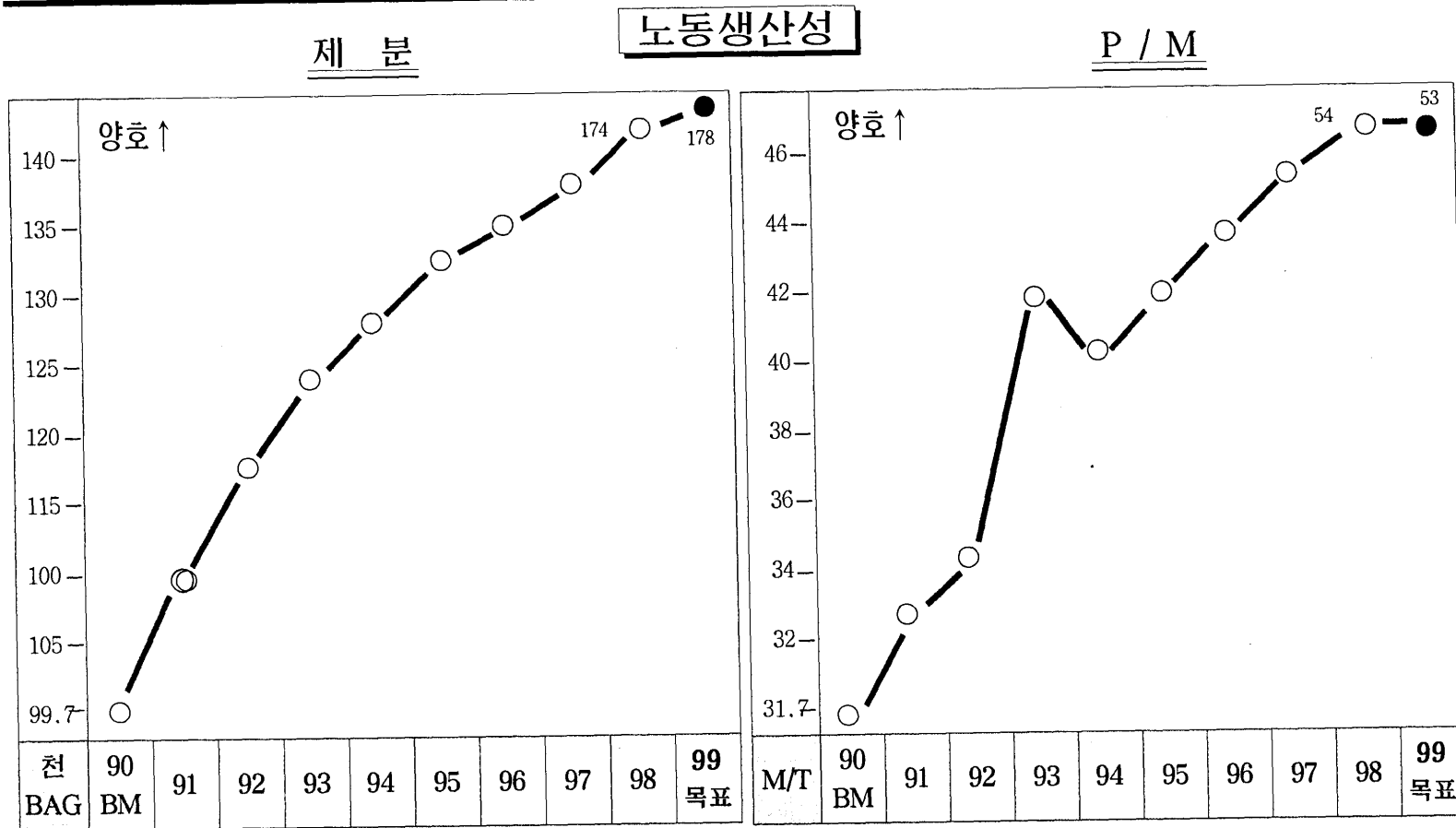
, KSA-TPM !

TPM TPM
BM 가
TPM OJT
KSA - TPM OJT
OJT



			BM(90)	98	BM	
		Bag/	99.7	174.7	1.8	1.1
	PM	%	82.5	93.7	11.2%P	1.4%P
			620	71	88.5%	11.1%
		HR	682	66	88.5%	11.1%
		%	3.13	0.17	94.6%	11.8%
		%	1.23	0.16	87.0%	10.9%
		%	1.2	0.28	76.7%	9.6%
			1	8	100%	100%
			390	377	3.3%	0.42%
	KSA- TPM , 12 , 1950					

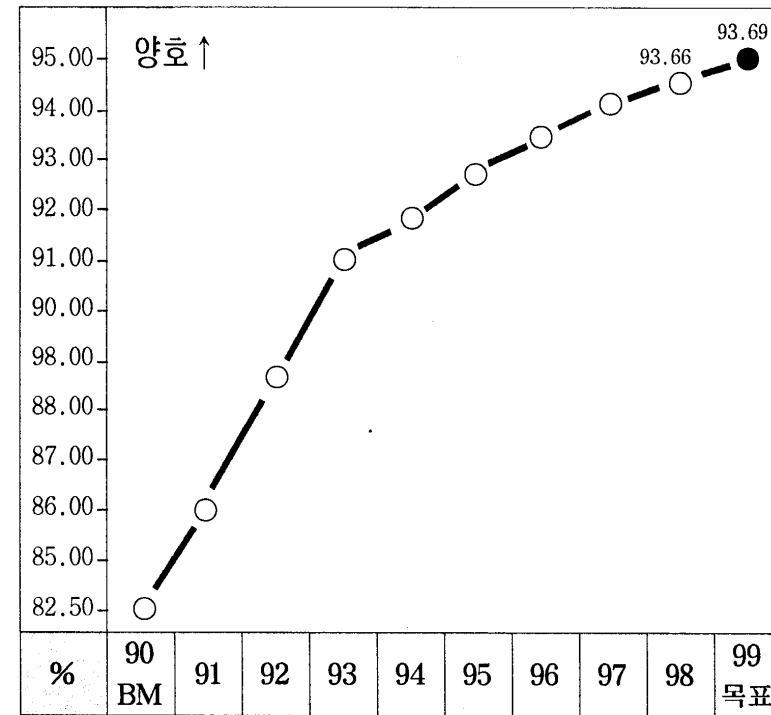
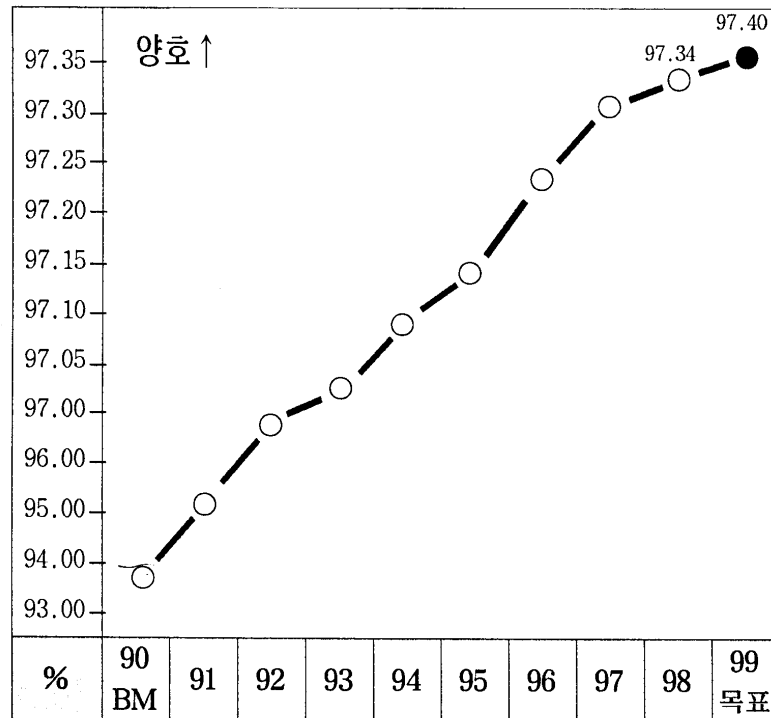
TPM 성과지표 추이



설비종합효율

제 분

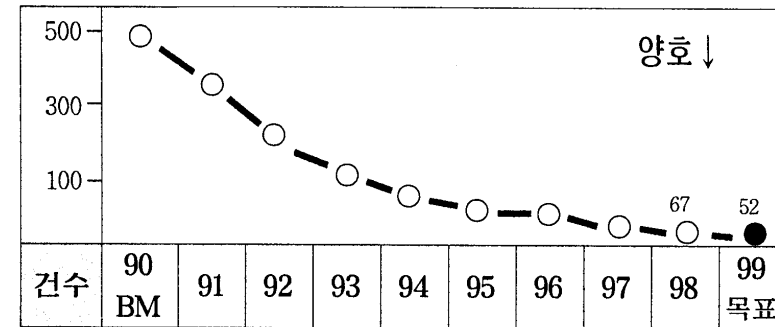
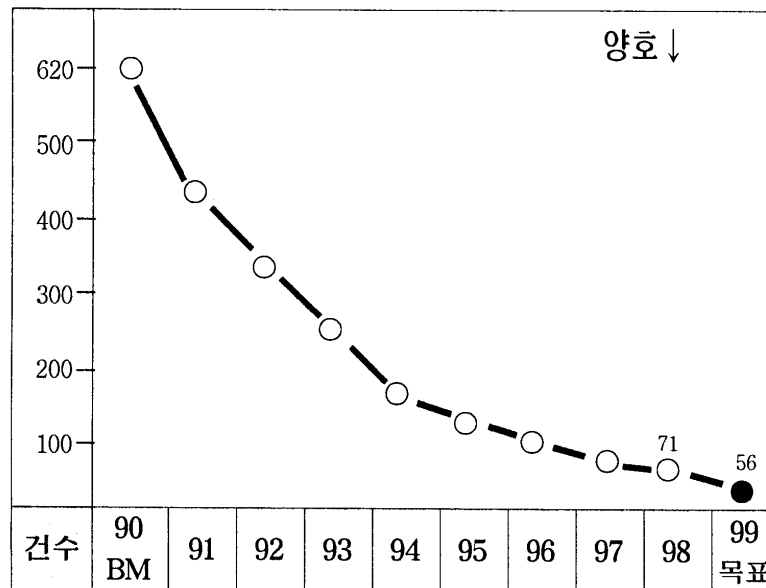
P / M



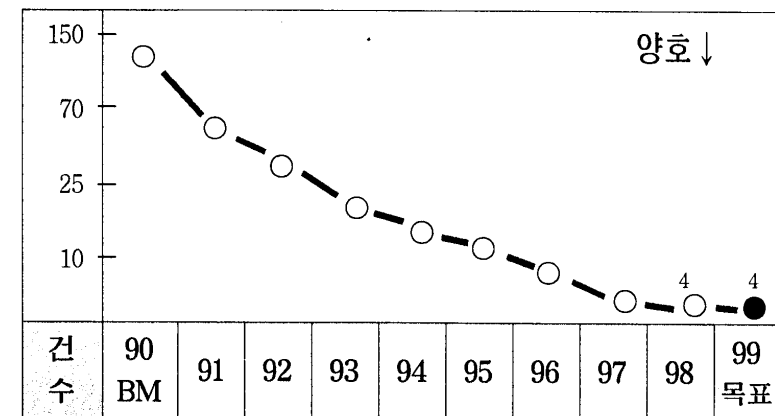
설비고장건수

제 분

TOTAL



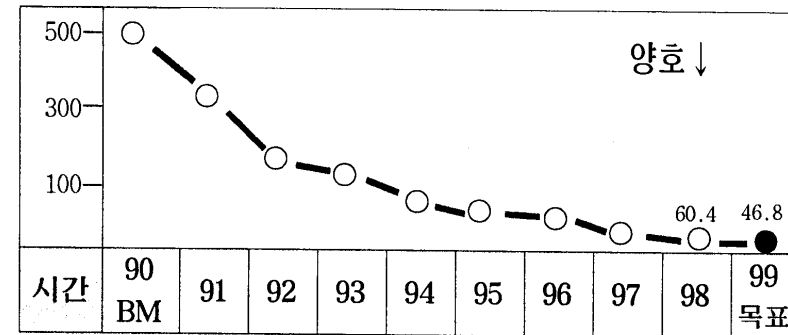
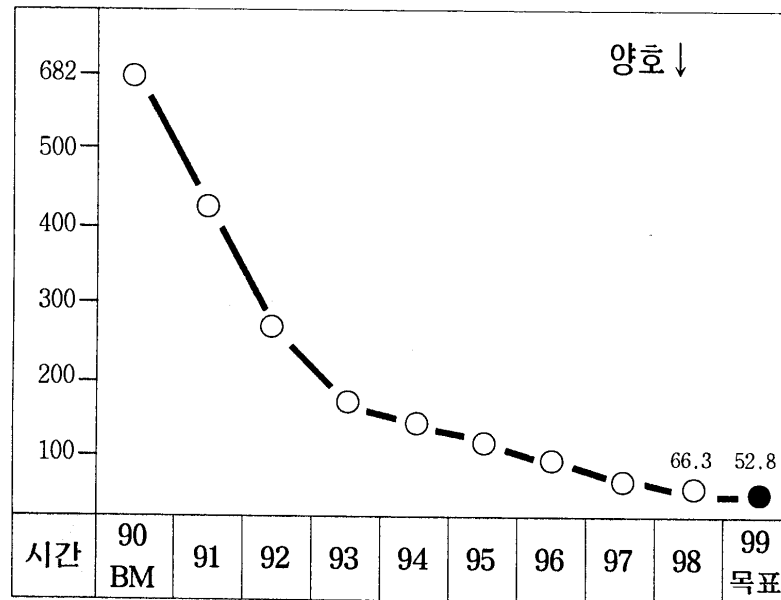
P / M



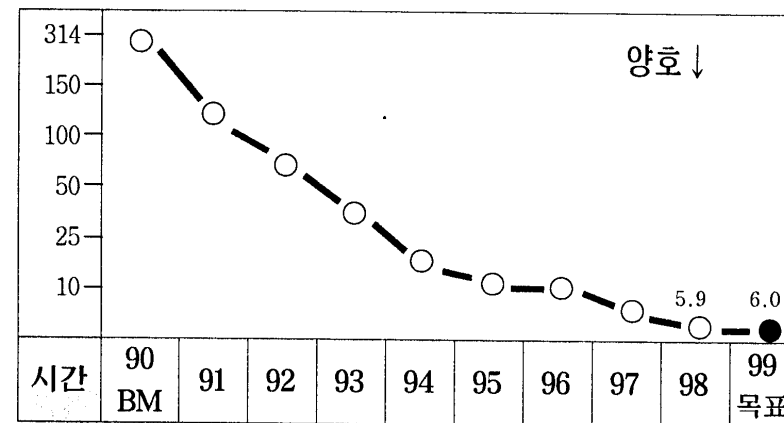
설비고장시간

제 분

TOTAL



P / M





			BM(91)	94	BM	
		/MH	264.3	317.8	1.2	1.06
		%	72.3	82.4	10.0%P	3.4%P
MTBF		HR	20.4	46.9	2.3	1.4
MTTR		HR	1.05	0.79	24.8%	8.3%
		/	11.5	7.6	33.9%	11.3%
		%	4.86	1.94	60.1%	20%
		ppm	7.1	2.6	63.4%	21.1%
		KW/Kl	253	231	8.7%	2.9%
COD		ppm	27	16	40.7%	13.6%
	KSA-TPM , (), TPM OPEN ,					



			BM(90)	93	BM	
		CS/MH	60.6	95.3	1.6	1.2
		%	68.5	79.0	10.5%P	3.5P
MTBF		HR	2.49	3.32	1.3	1.1
MTTR		HR	0.38	0.32	15.8%	5.3%
			330	150	54.5%	18.2%
		HR	55.7	35.0	37.2%	12.4%
		ppm	2.90	0.82	71.7%	23.9%
		m ³ /Unit	10.6	8.5	19.8%	6.6%
BOD		ppm	749	583	22.2%	7.4%
	KSA - TPM , (8 ,), TPM					OPEN



			BM(94)	97	BM	
		L/	962	1426	1.5	1.16
		%	72.4	81.4	9.0%P	3.0%P
	NP	%	87.8	90.3	2.5%P	0.83%P
		%	0.28	0.17	39.3%	13.1%
		%	0.024	0.019	20.8%	6.9%
		/	6	3	50%	16.7%
			15	2	86.7%	28.9%
Dust		mg/S m ³	15.1	14	7.3%	2.4%
COD		ppm	26.6	23.4	12.0%	4.0%
	KSA- TPM , (), TPM OPEN ,					

1

			BM(94)	97	BM	
		Bag/	149	156	1.1	1.03
		%	85.0	96.9	11.9%P	4.0%P
			84	26	69%	23%
		HR	130.8	36.0	72.5%	24.2%
MTBF		HR	626	2,494	4.0	1.3
		%	0.41	0.05	87.8%	29.3%
	PM	%	0.22	0.05	77.3%	25.8%
			1	3	100%	100%
		/	183	32	82.5%	27.5%
	KSA - TPM , , 1953					

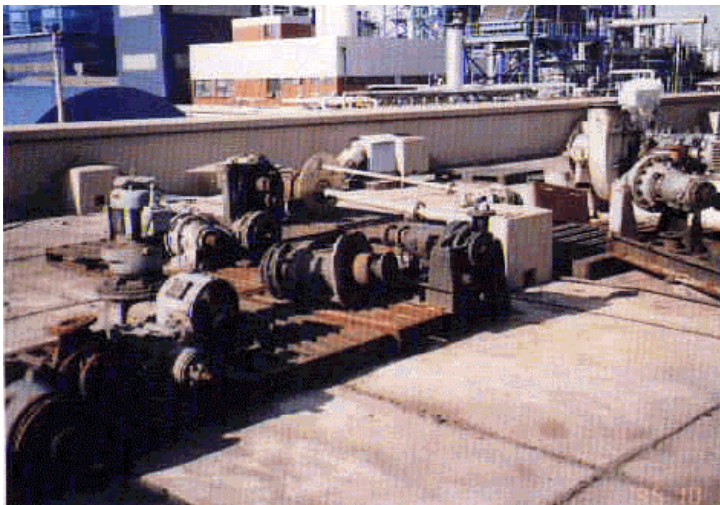
LG

			BM(92)	95	BM	
		/	341	670	1.96	1.32
		%	59.0	76.2	17.2%P	5.7%P
MTBF		HR	30.0	30.9	1.03	1.01
MTTR		HR	1.3	1.1	15.4%	5.1%
		%	4.1	3.6	12.2%	4.1%
		%	3.3	3.1	6.1%	2.0%
		%	98.2	99.3	1.1%P	1.03%P
		%	0.02	0	100%	100%
BOD		ppm	749	583	22.2%	7.4%
	KSA- TPM , (), TPM OPEN					

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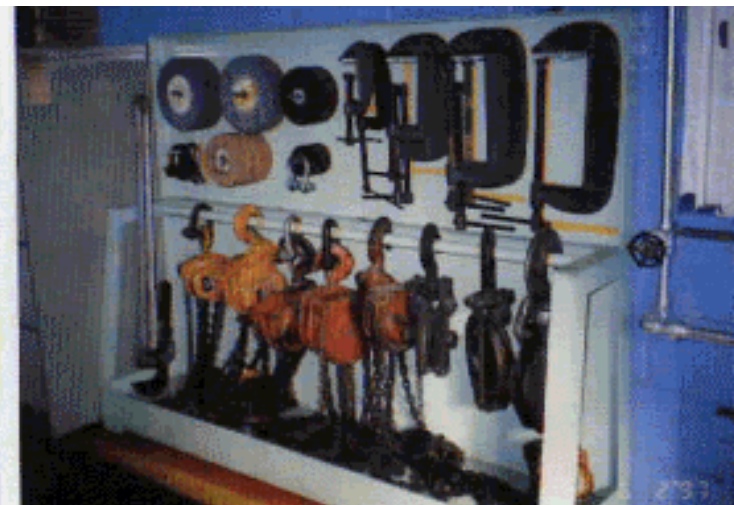


B ()

K
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M

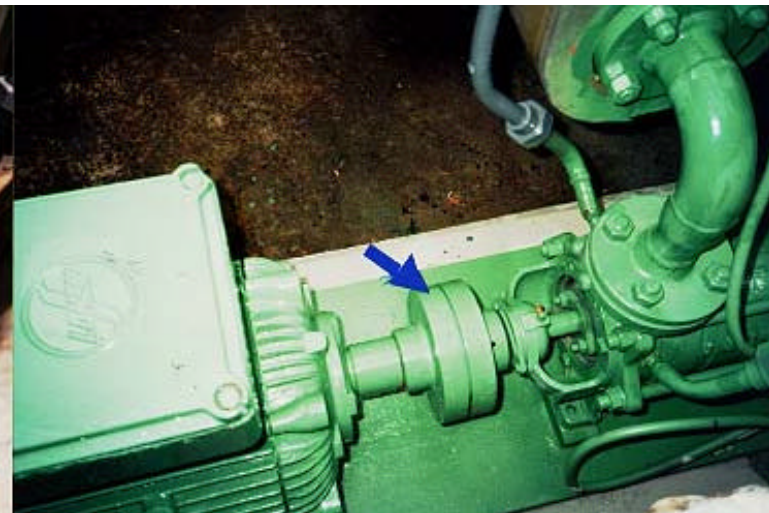
O
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S
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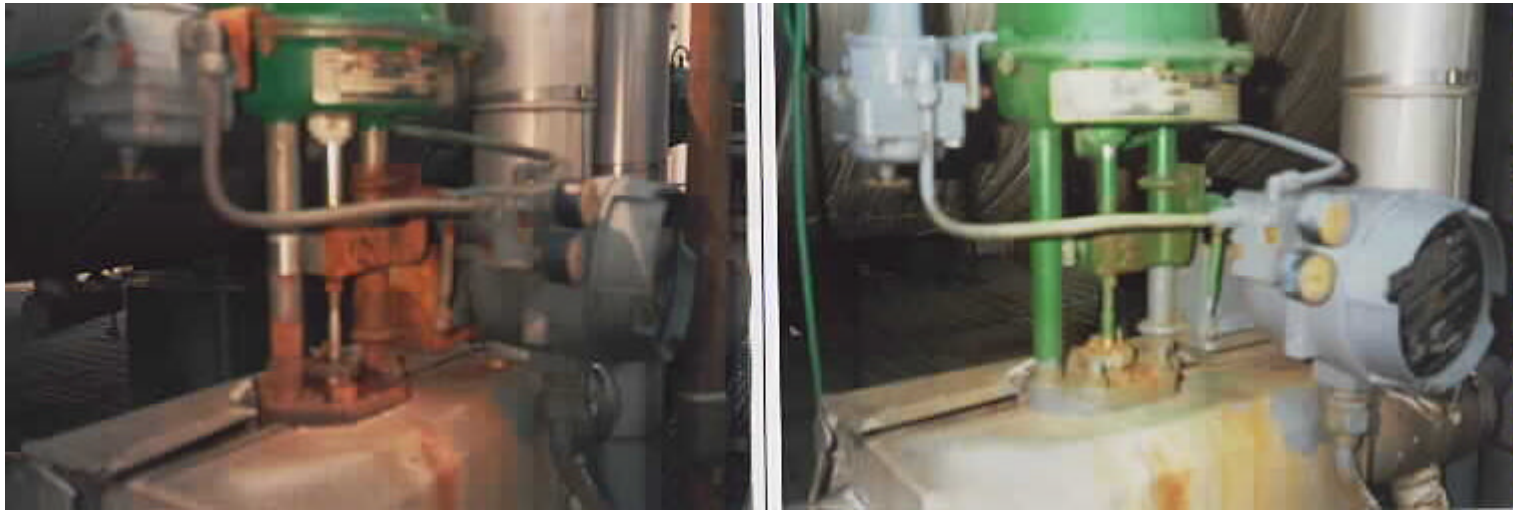
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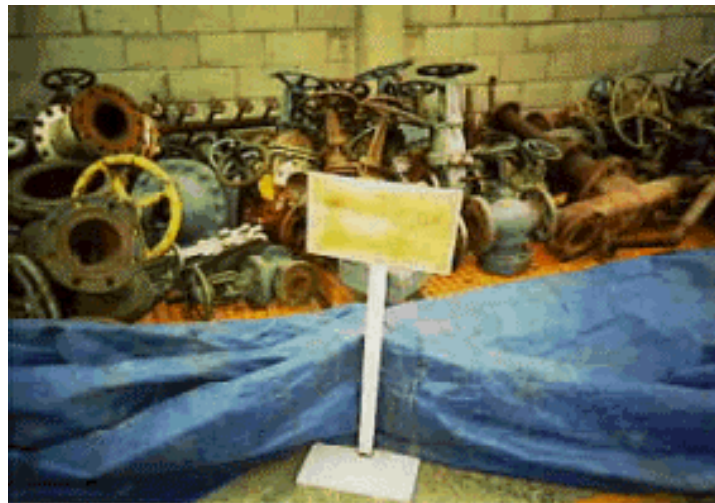
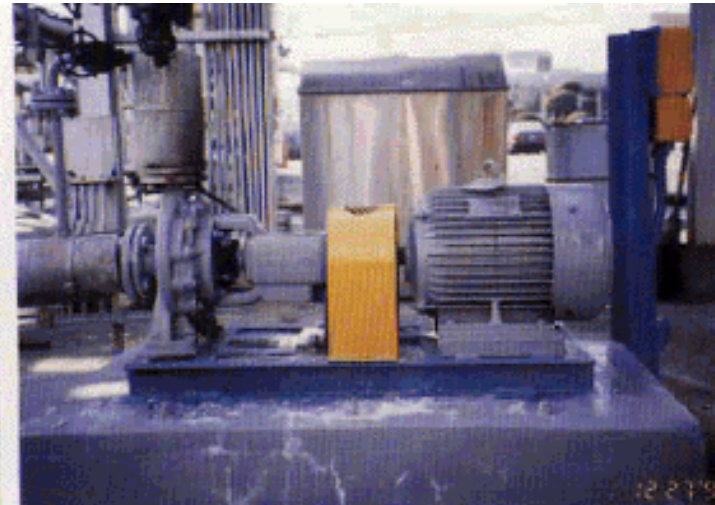
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