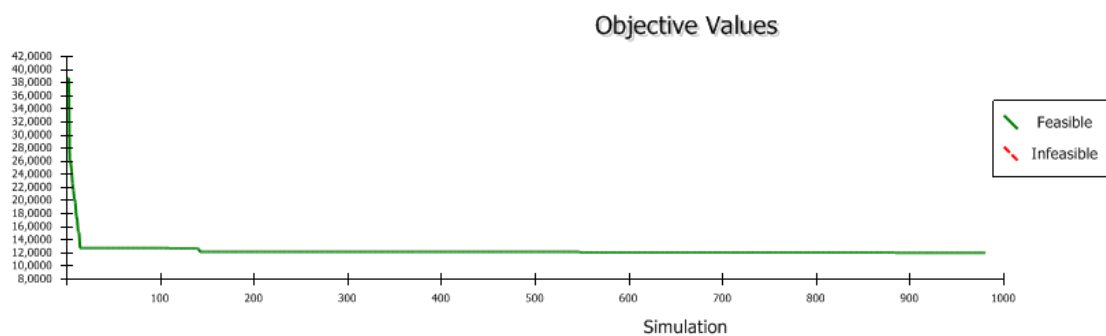
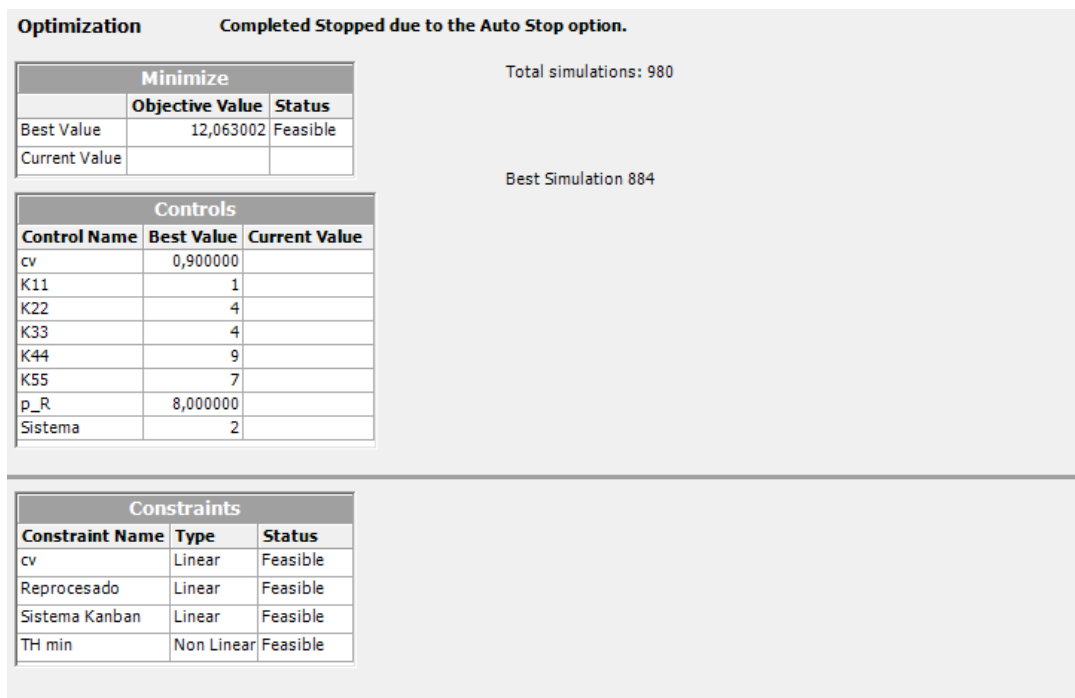


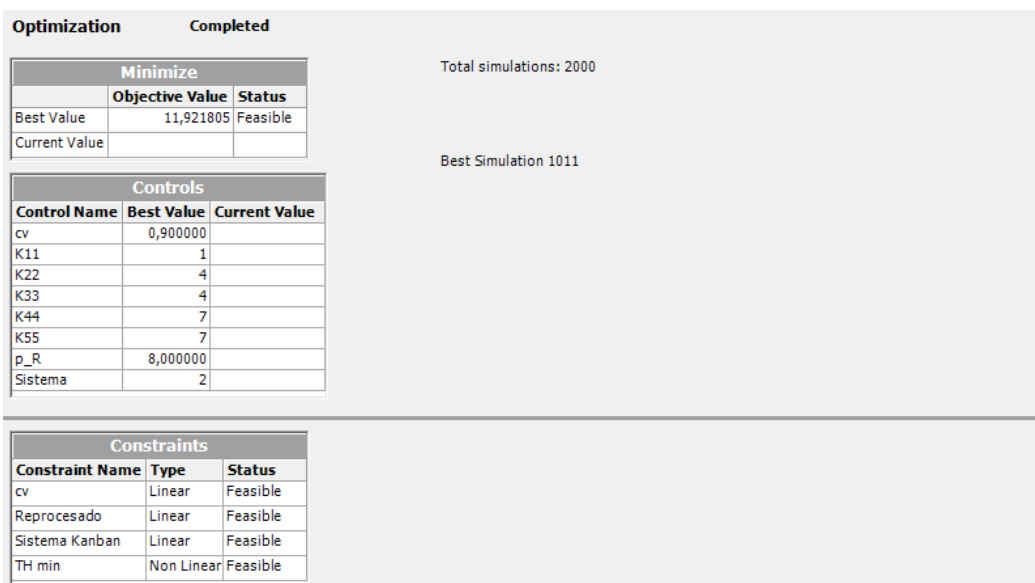
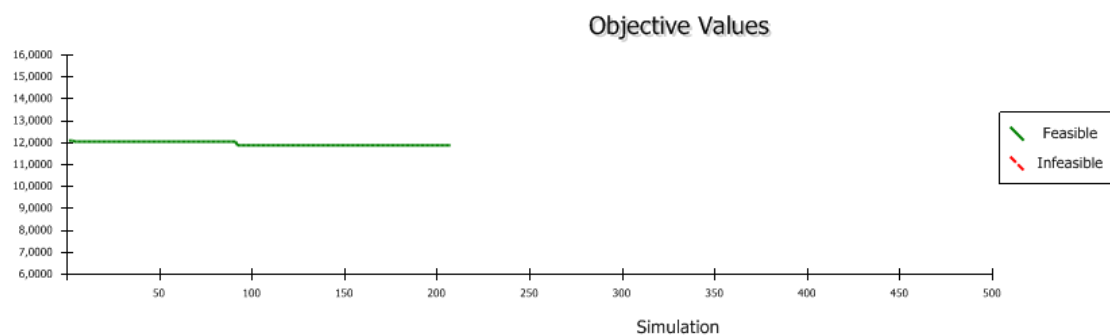
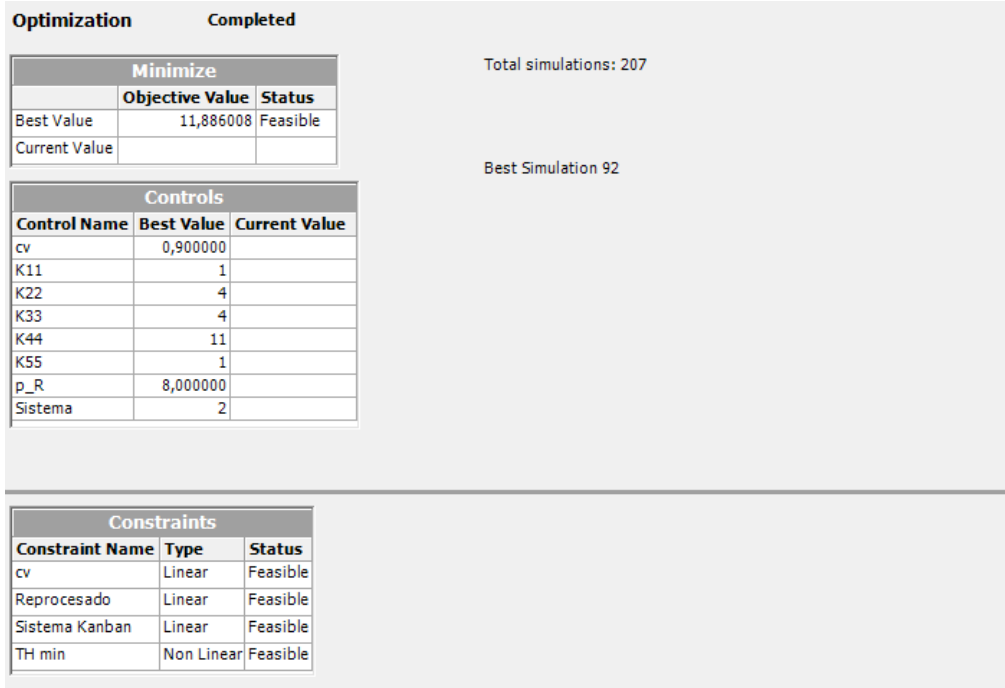


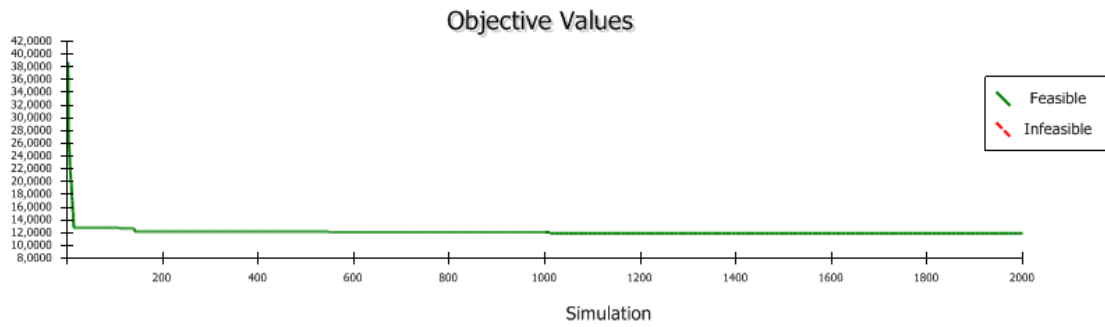
ANEXO 1: RESULTADOS DE LAS SIMULACIONES EN OPTQUEST

A. KANBAN TH=80%

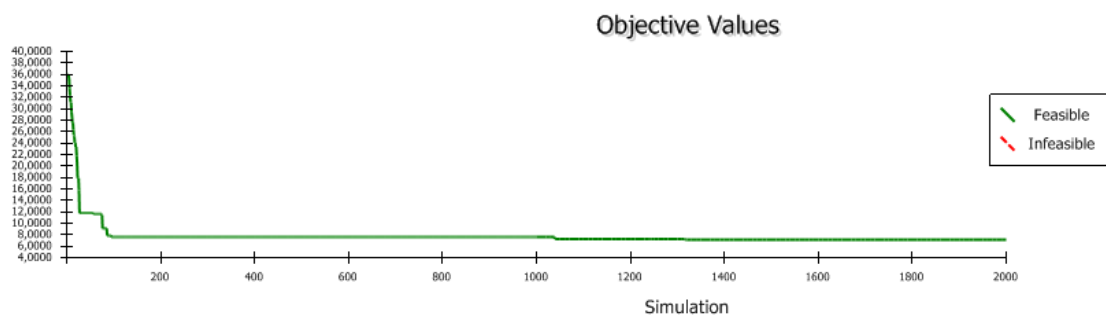
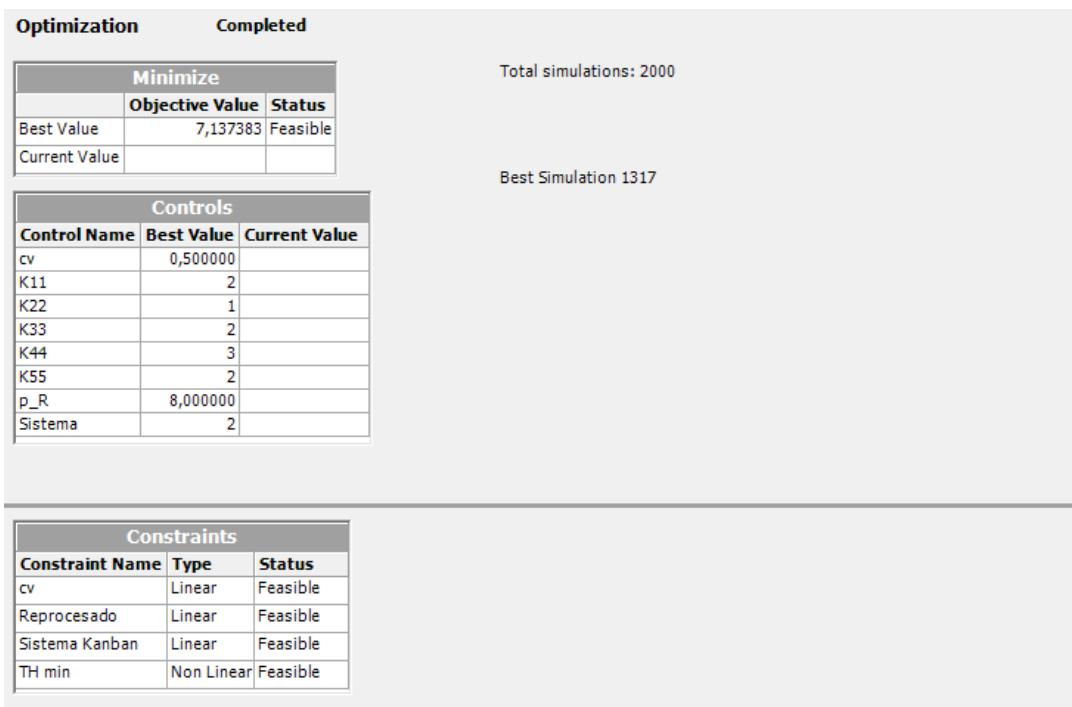
KANBAN SIN FALLOS; TH=80%; $p_R=8\%$; $cv=0.9$





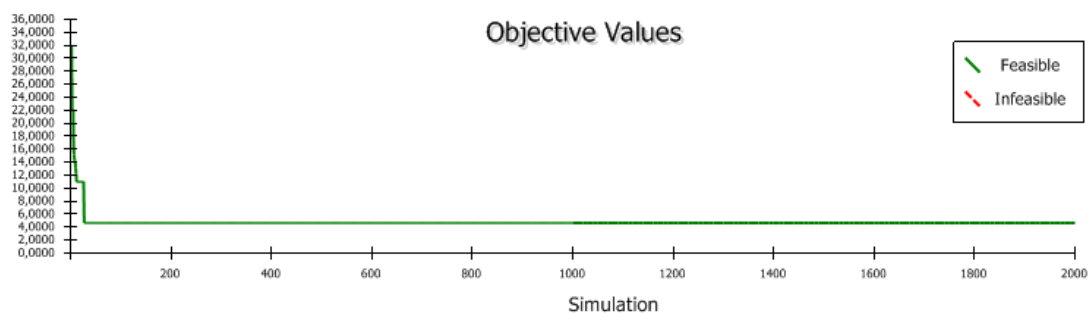
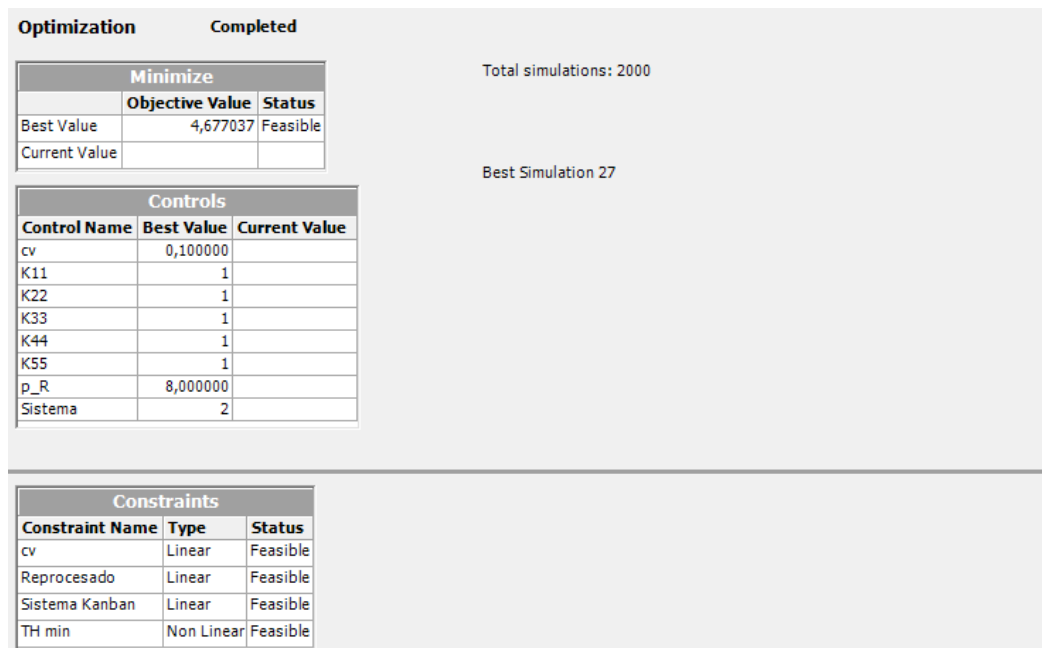


KANBAN SIN FALLOS; TH=80%; $p_R=8\%$; $cv=0.5$





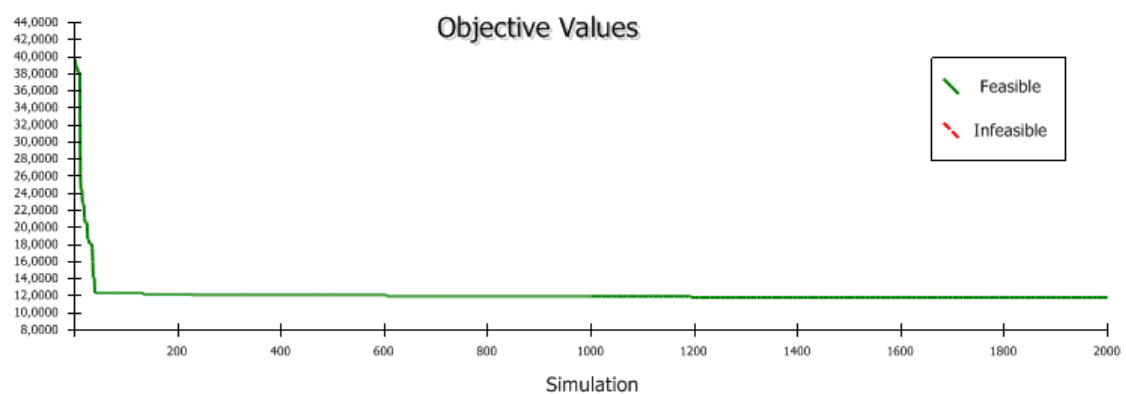
KANBAN SIN FALLOS; TH=80%; p_R=8%; cv=0.1





KANBAN SIN FALLOS; TH=80%; p_R=4%; cv=0.9

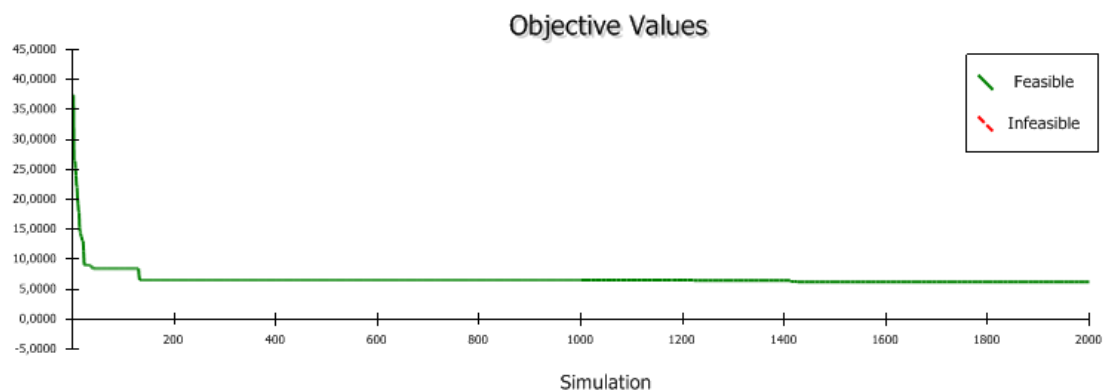
Optimization			Completed
Minimize			Total simulations: 2000
	Objective Value	Status	
Best Value	11,852459	Feasible	
Current Value			
Controls			Best Simulation 1194
Control Name	Best Value	Current Value	
cv	0,900000		
K11	2		
K22	2		
K33	6		
K44	6		
K55	14		
p_R	4,000000		
Sistema	2		
Constraints			
Constraint Name	Type	Status	
cv	Linear	Feasible	
Reprocesado	Linear	Feasible	
Sistema Kanban	Linear	Feasible	
TH min	Non Linear	Feasible	





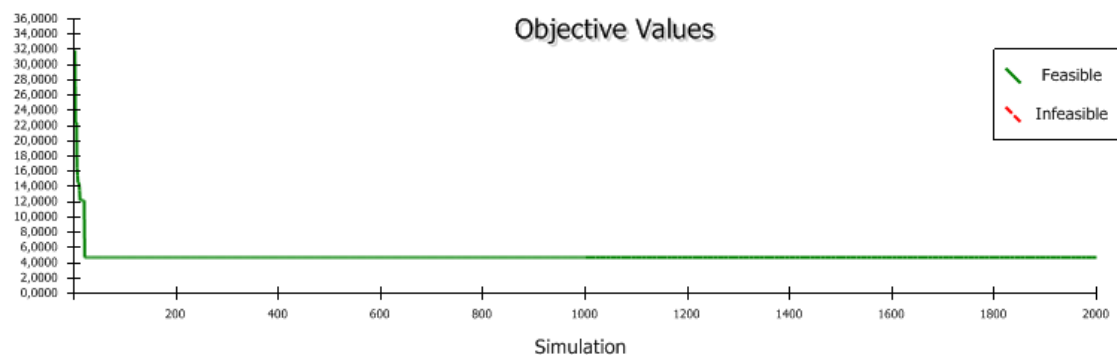
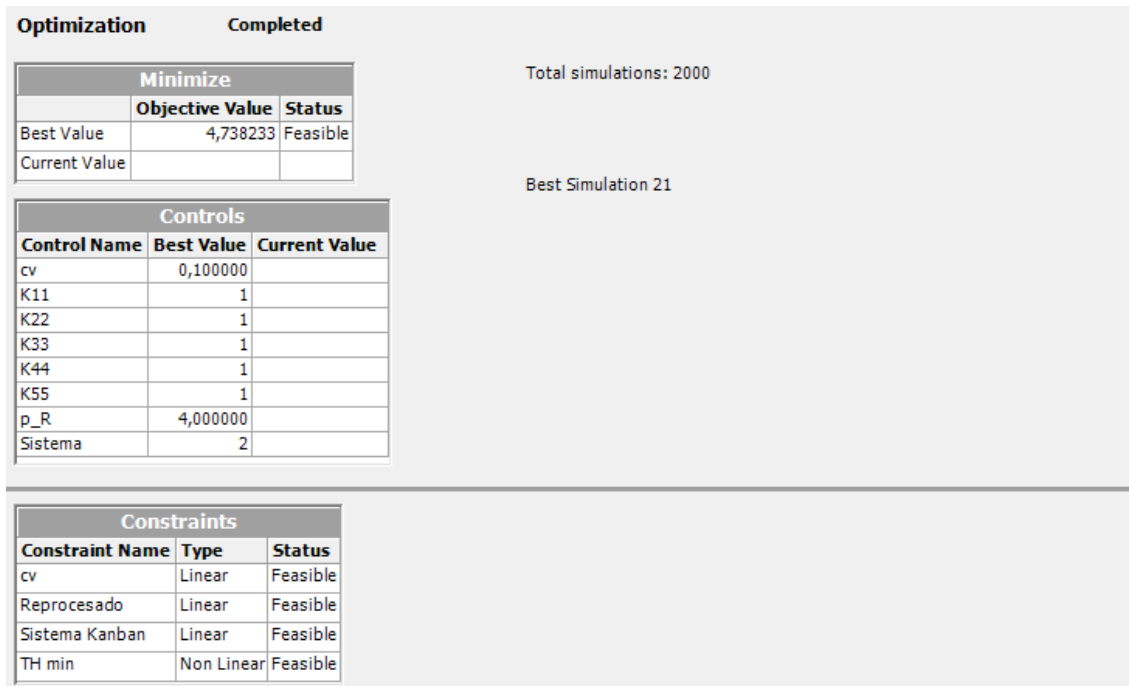
KANBAN SIN FALLOS; TH=80%; p_R=4%; cv=0.5

Optimization			Completed
Minimize			Total simulations: 2000
	Objective Value	Status	
Best Value	6,227189	Feasible	
Current Value			
Controls			Best Simulation 1461
Control Name	Best Value	Current Value	
cv	0,500000		
K11	1		
K22	2		
K33	1		
K44	4		
K55	2		
p_R	4,000000		
Sistema	2		
Constraints			
Constraint Name	Type	Status	
cv	Linear	Feasible	
Reprocesado	Linear	Feasible	
Sistema Kanban	Linear	Feasible	
TH min	Non Linear	Feasible	



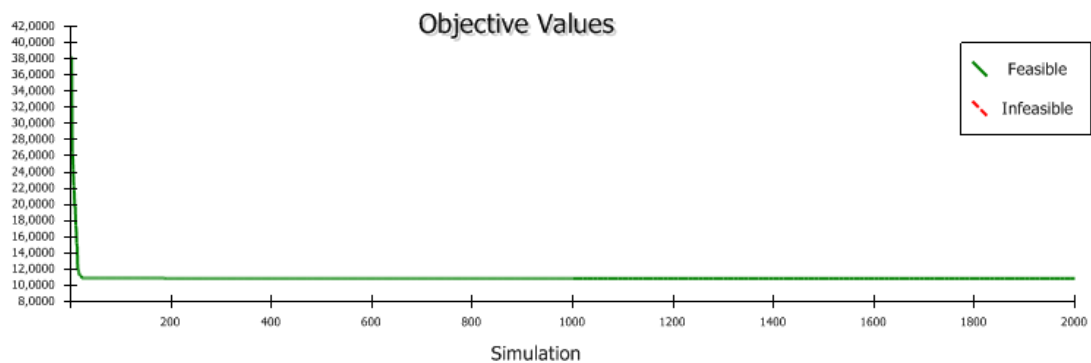
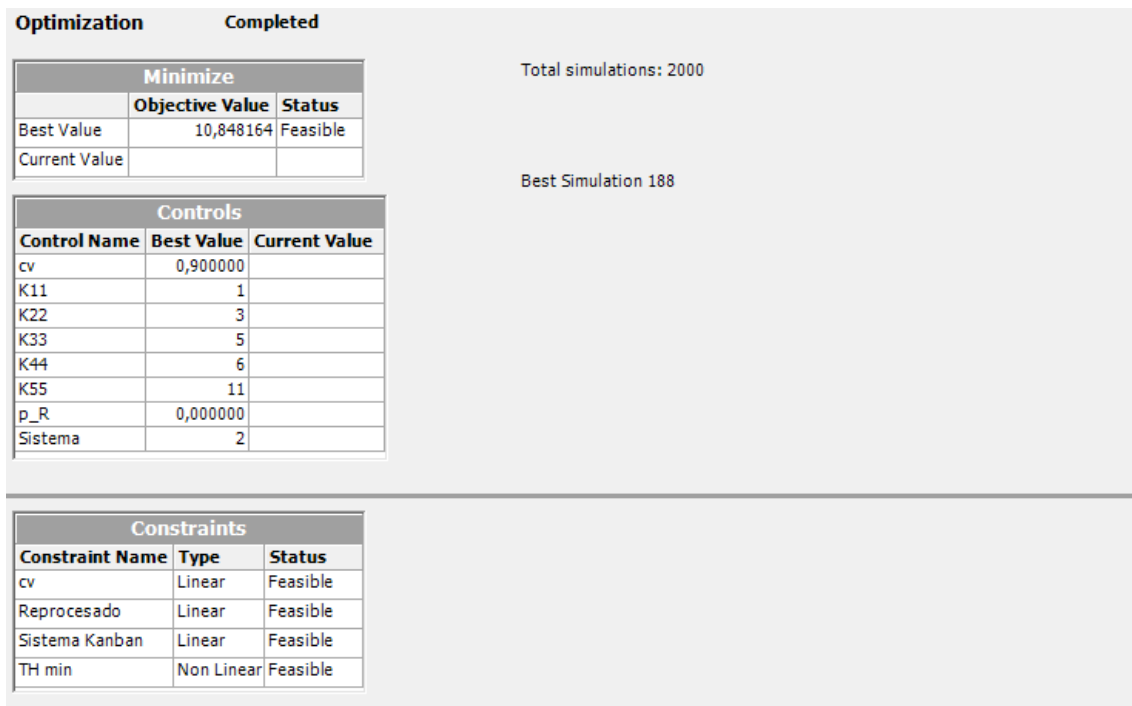


KANBAN SIN FALLOS; TH=80%; p_R=4%; cv=0.1



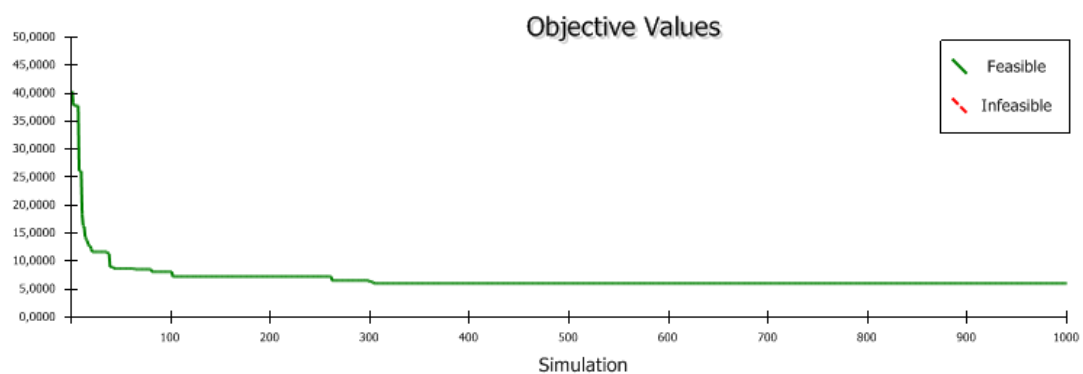
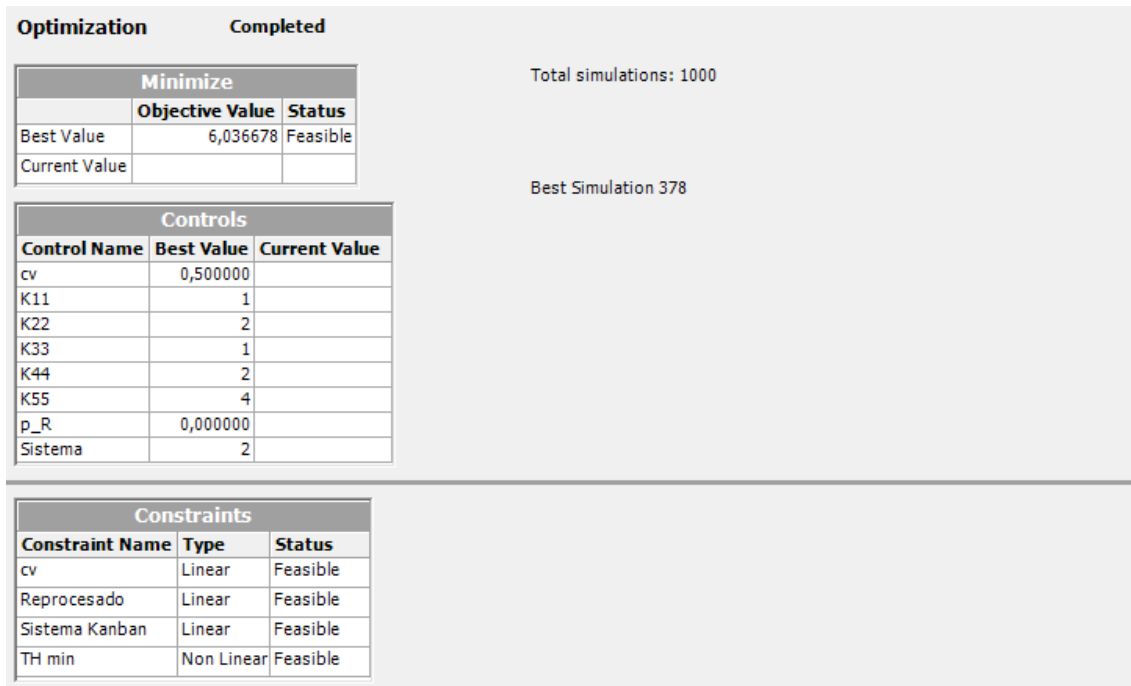


KANBAN SIN FALLOS; TH=80%; p_R=0%; cv=0.9



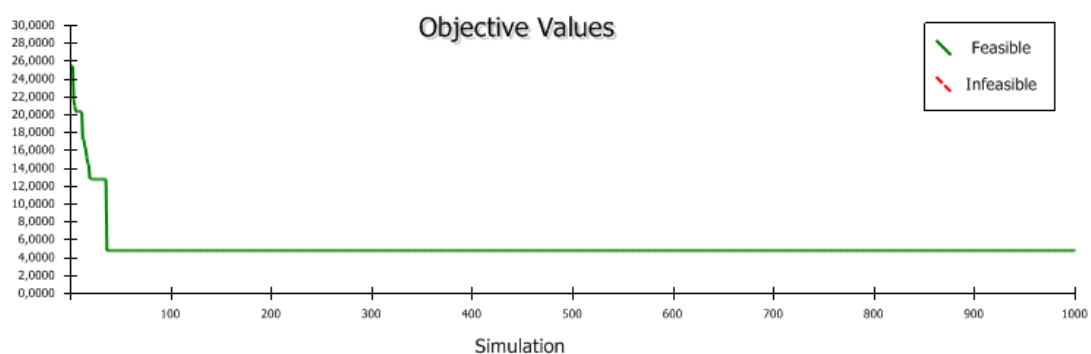
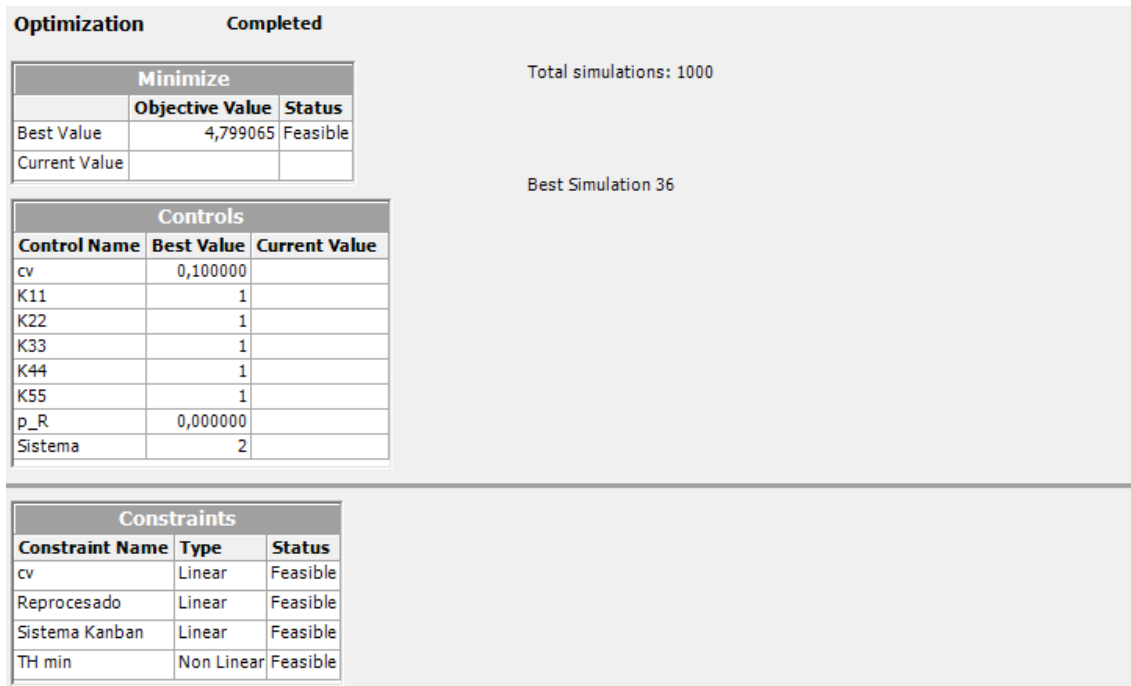


KANBAN SIN FALLOS; TH=80%; p_R=0%; cv=0.5



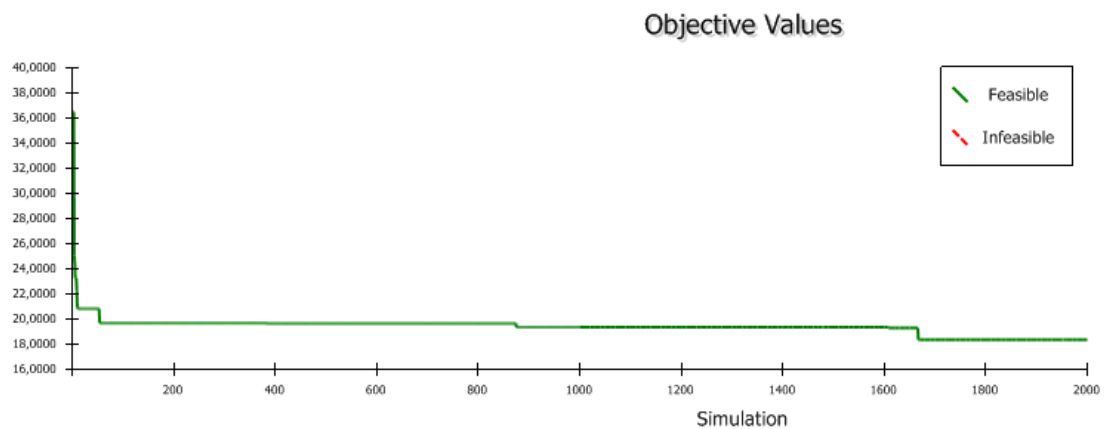
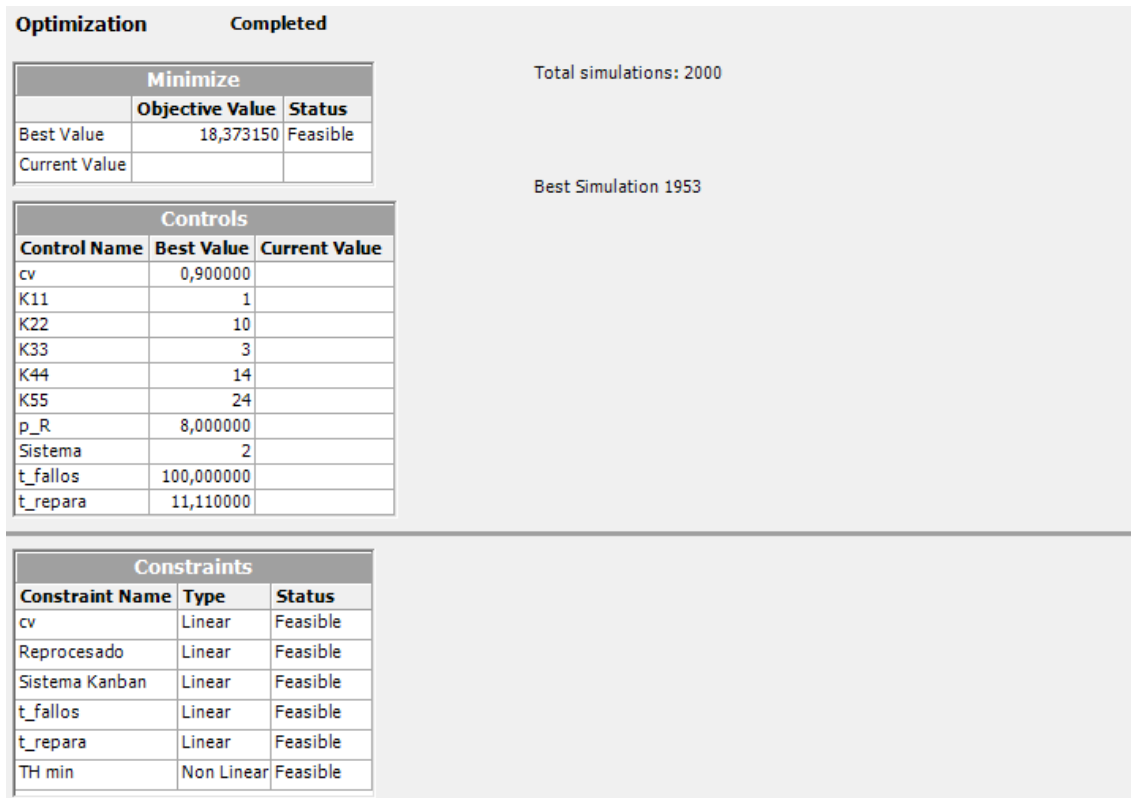


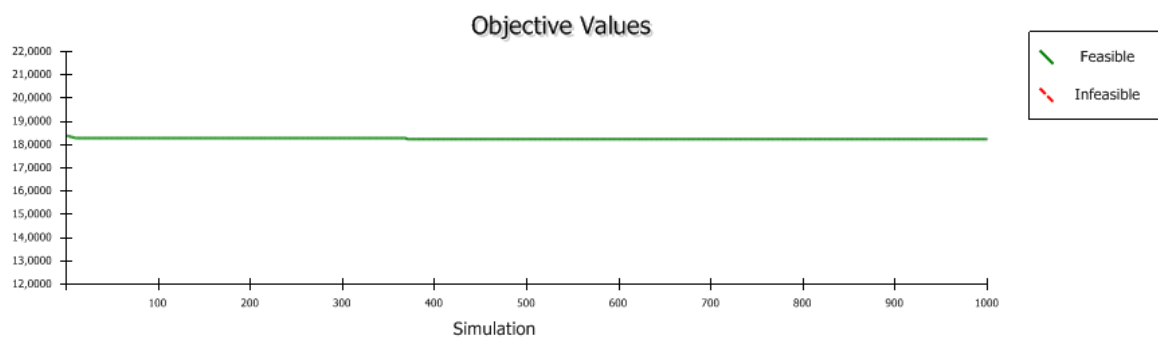
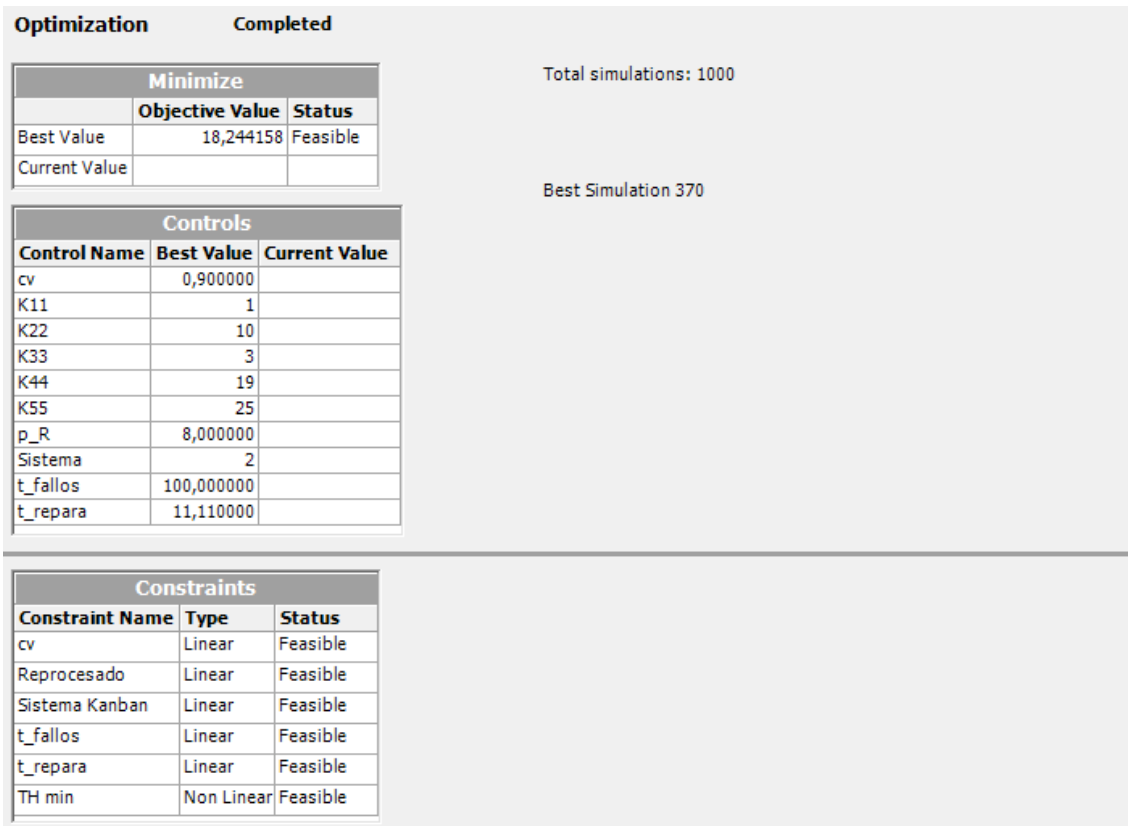
KANBAN SIN FALLOS; TH=80%; p_R=0%; cv=0.1





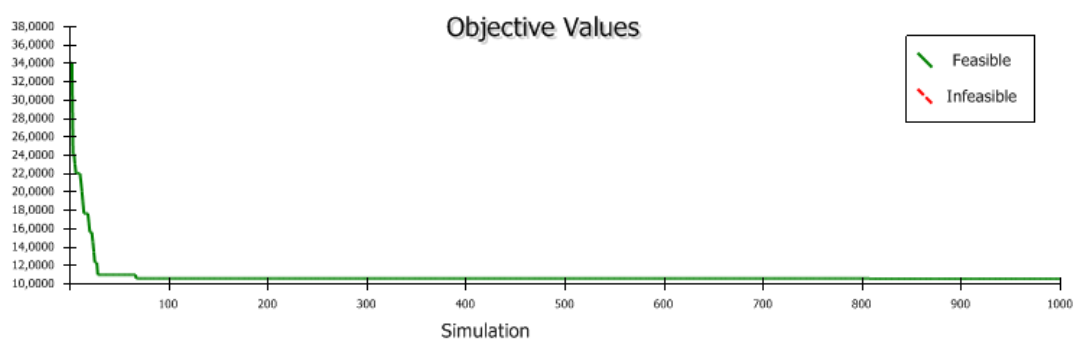
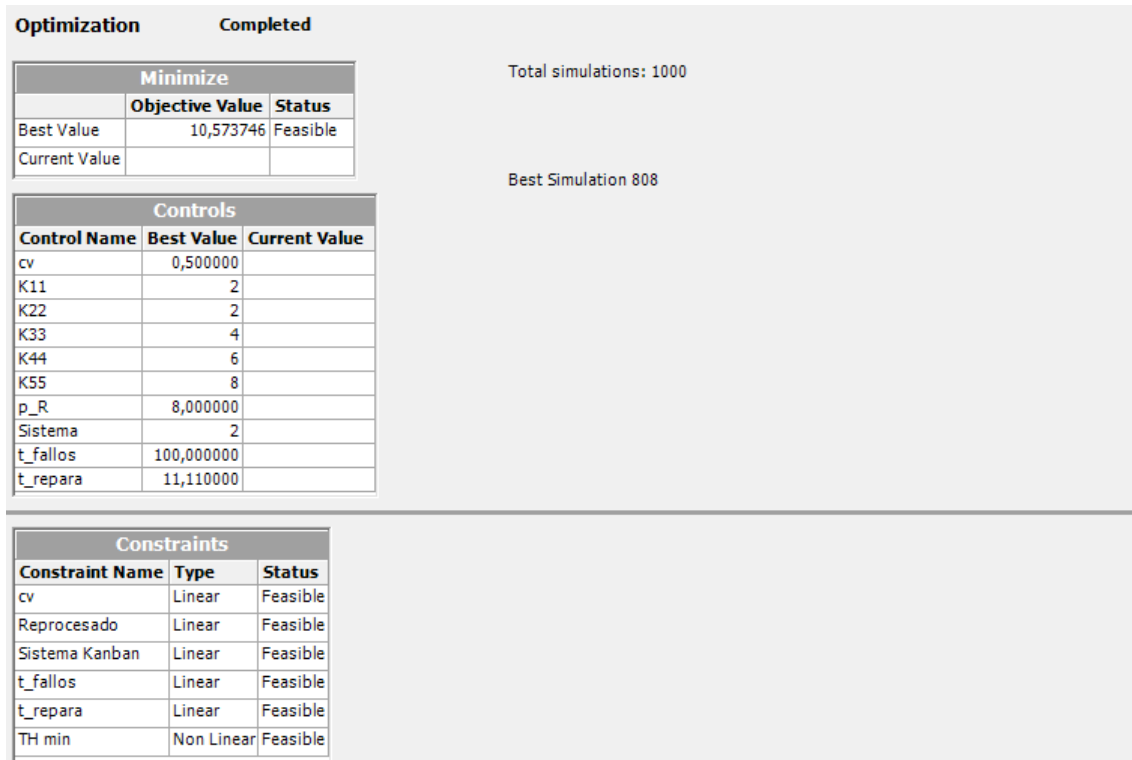
KANBAN PATRÓN DE AVERÍAS TIPOA; TH=80%; $p_R=8\%$; $cv=0.9$

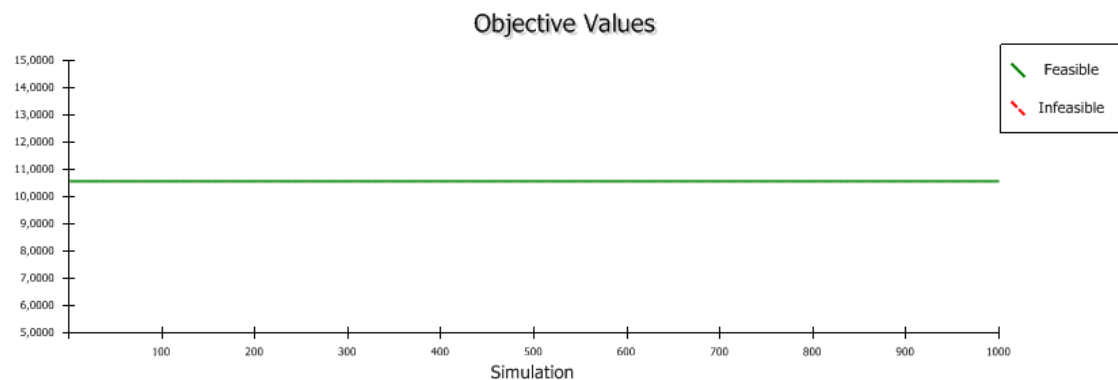
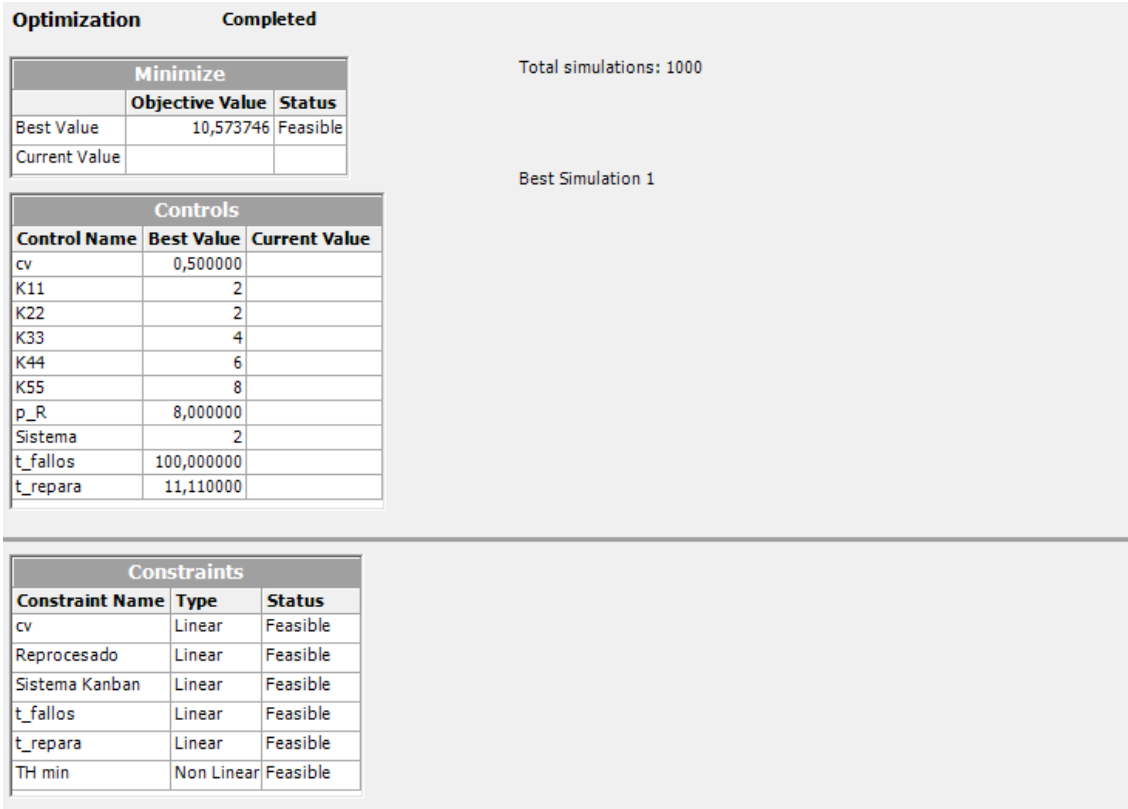






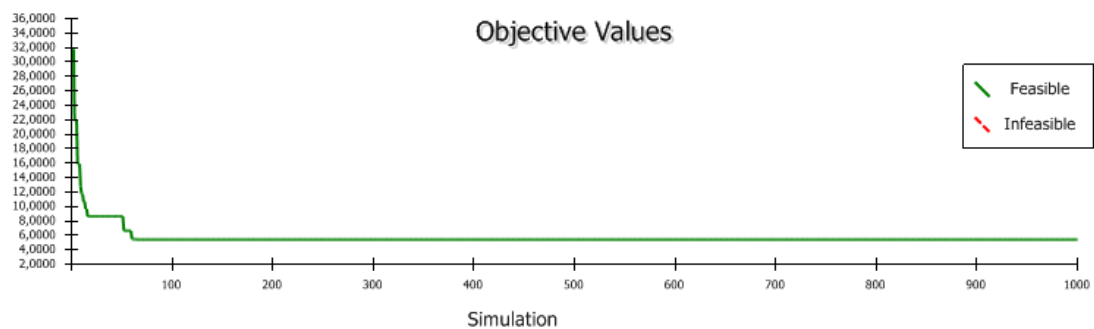
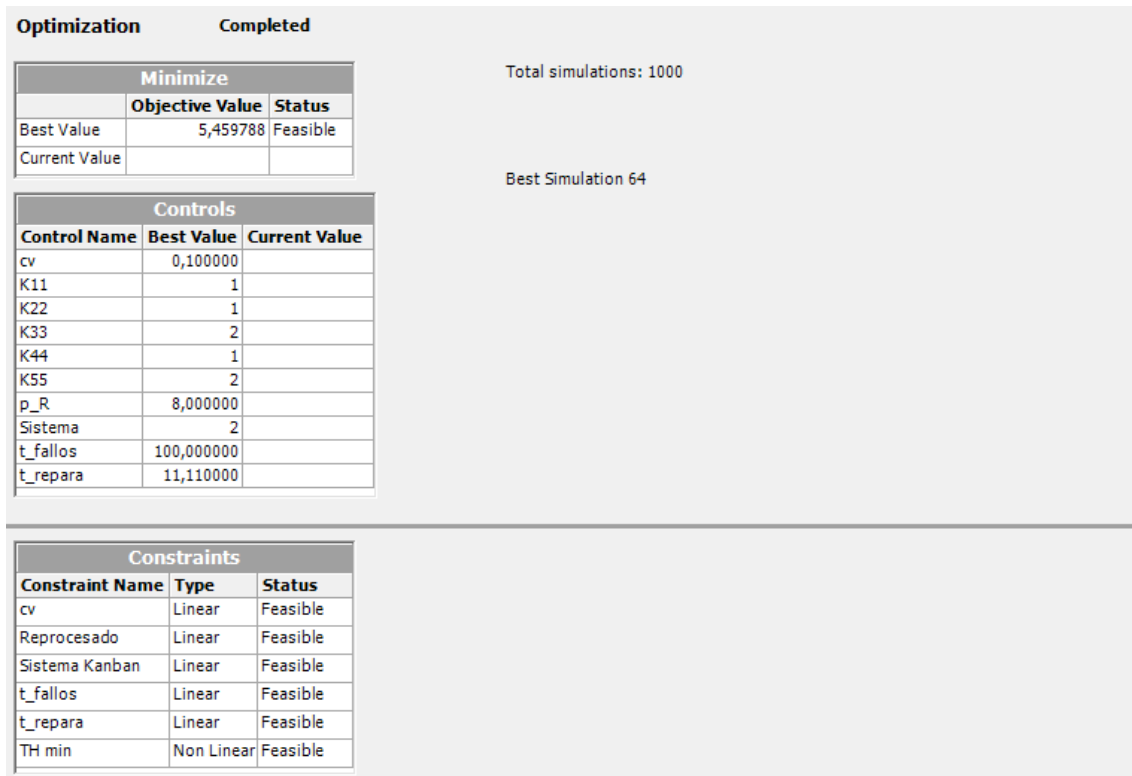
KANBAN PATRÓN DE AVERÍAS TIPO A; TH=80%; p_R=8%; cv=0.5





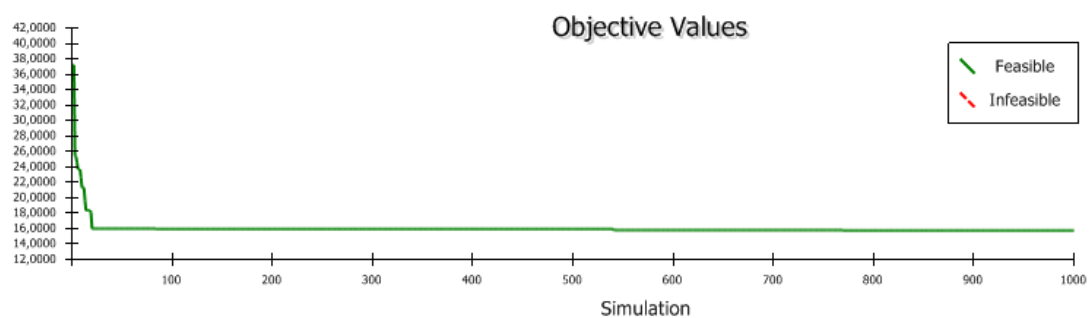
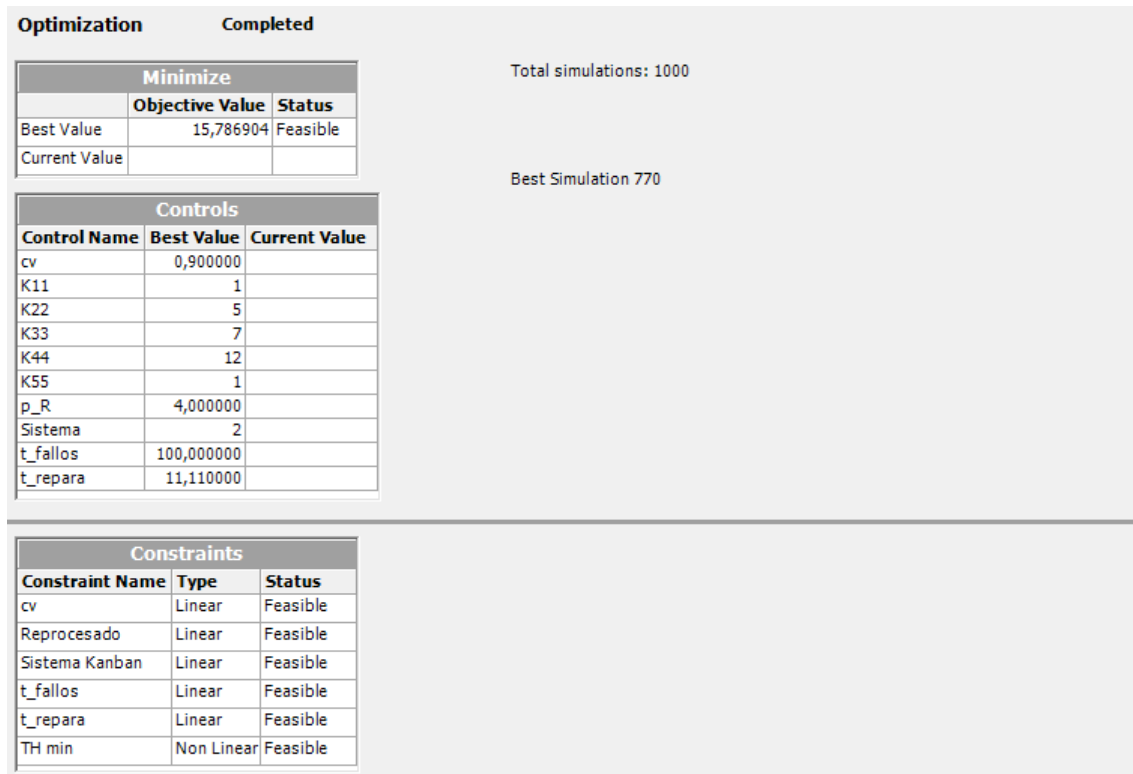


KANBAN PATRÓN DE AVERÍAS TIPO A; TH=80%; p_R=8%; cv=0.1



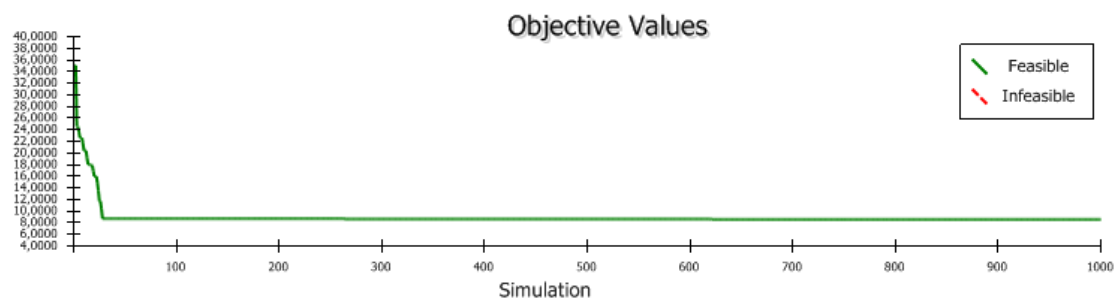
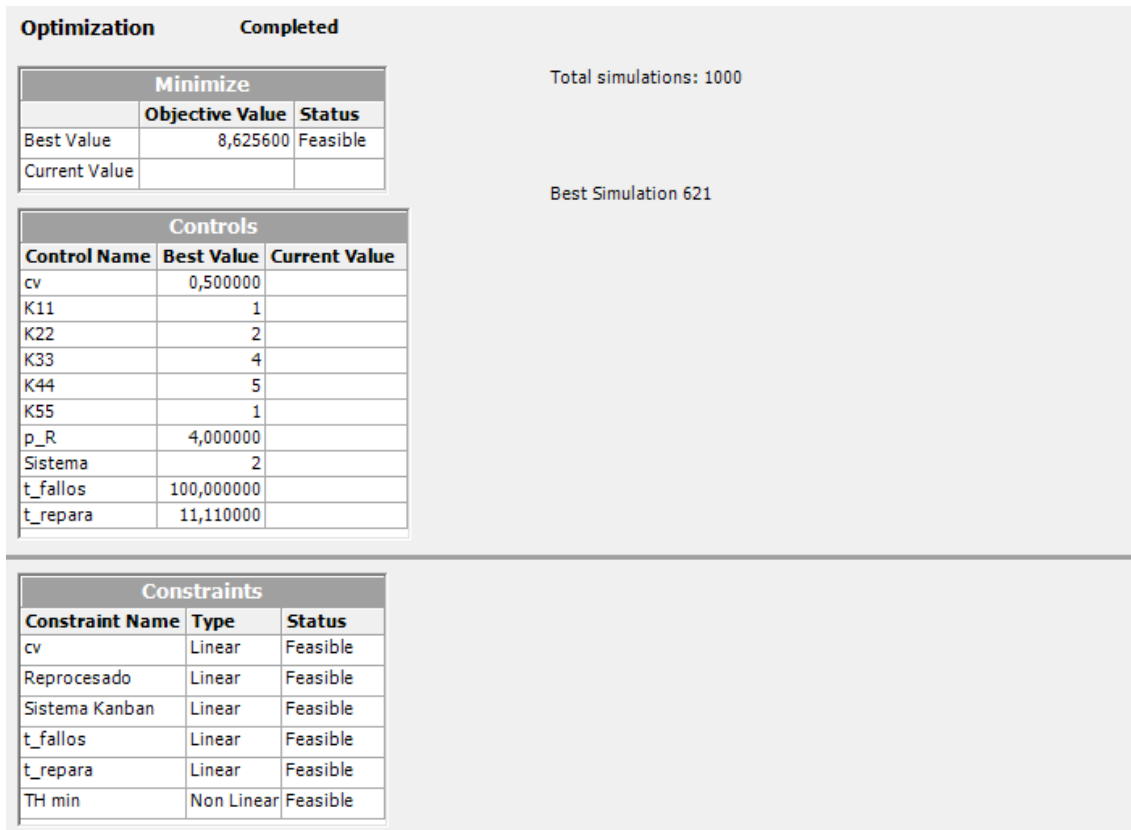


KANBAN PATRÓN DE AVERÍAS TIPO A; TH=80%; p_R=4%; cv=0.9



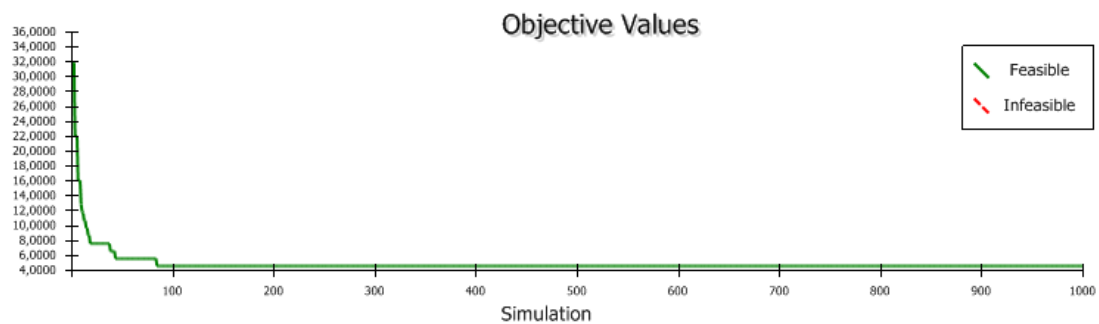
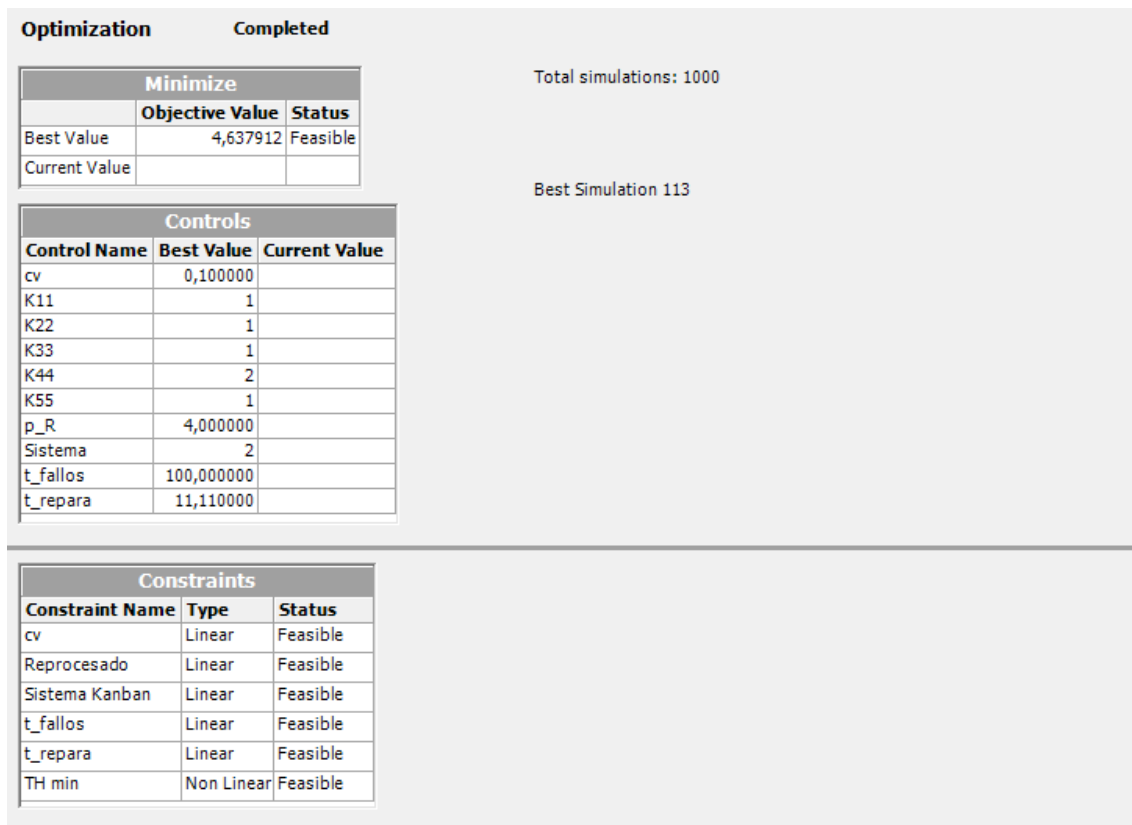


KANBAN PATRÓN DE AVERÍAS TIPO A; TH=80%; p_R=4%; cv=0.5



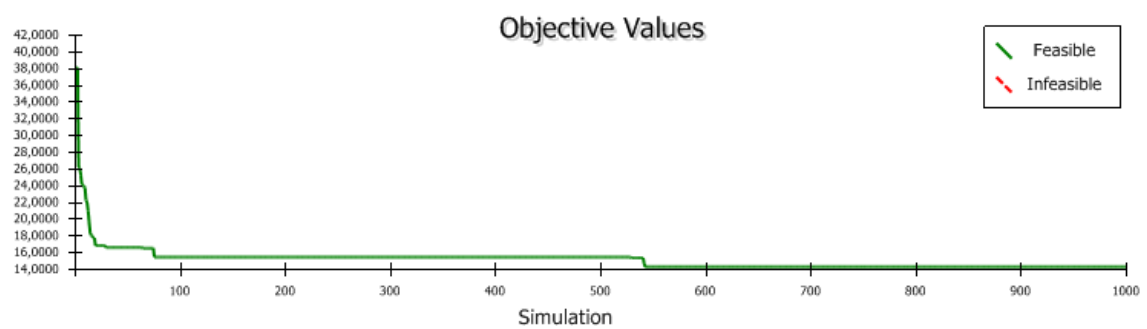
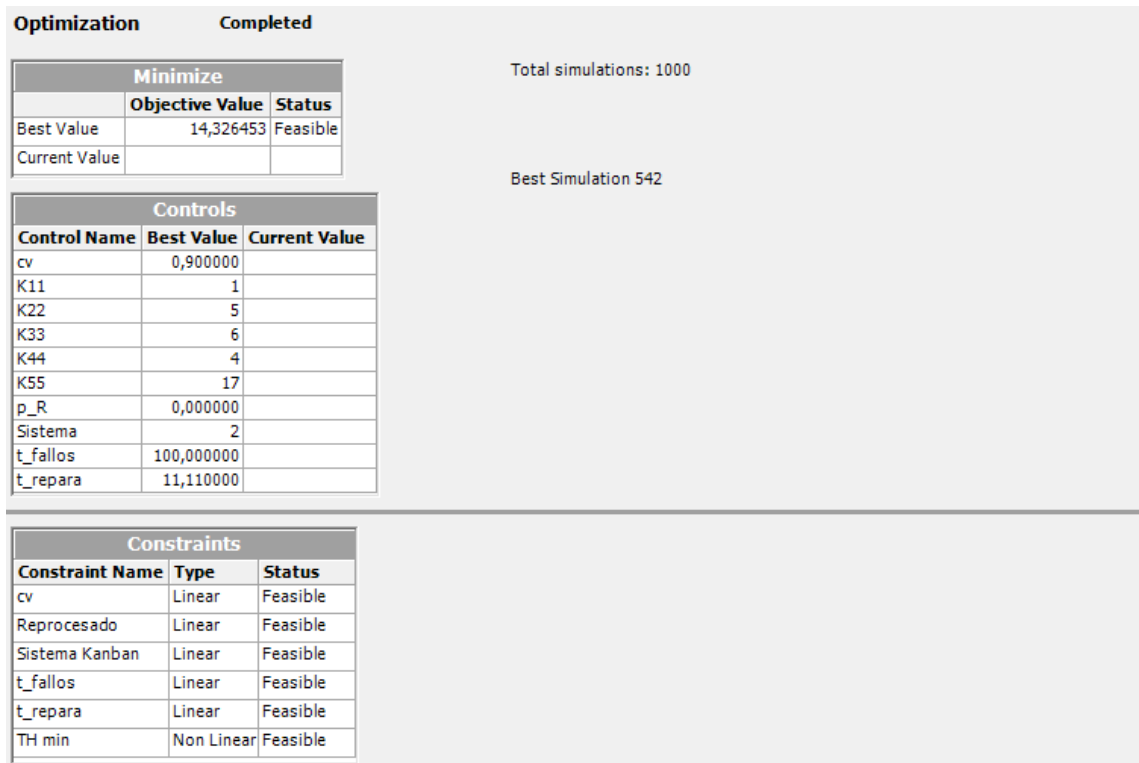


KANBAN PATRÓN DE AVERÍAS TIPO A; TH=80%; p_R=4%; cv=0.1



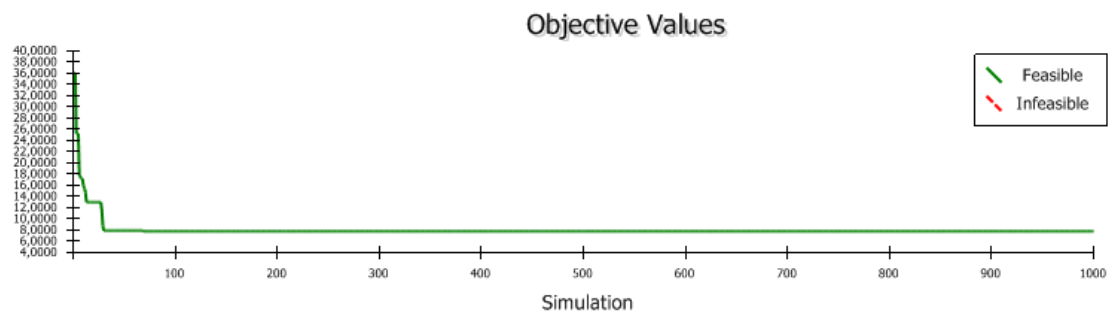
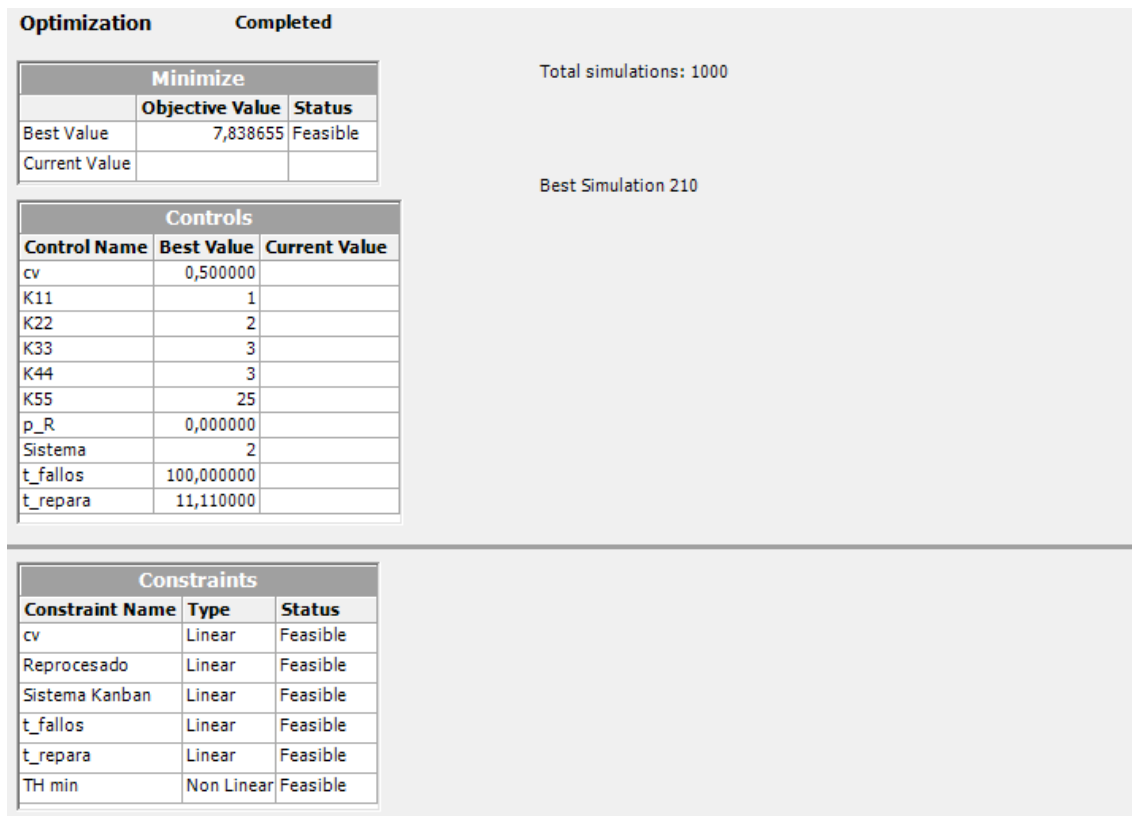


KANBAN PATRÓN DE AVERÍAS TIPO A; TH=80%; p_R=0%; cv=0.9



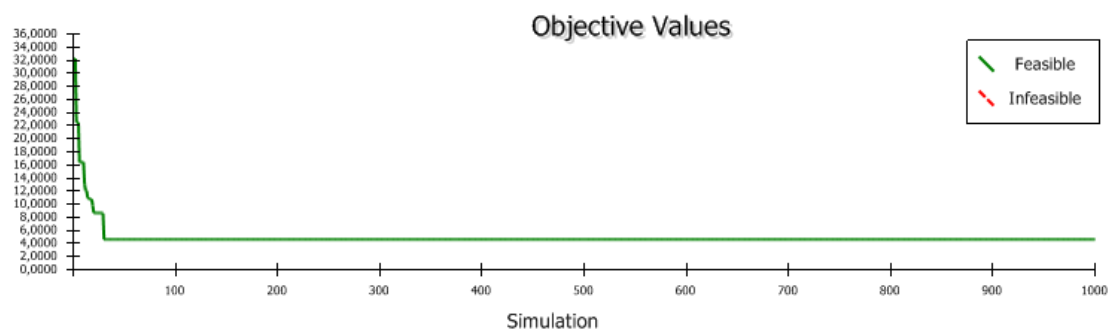
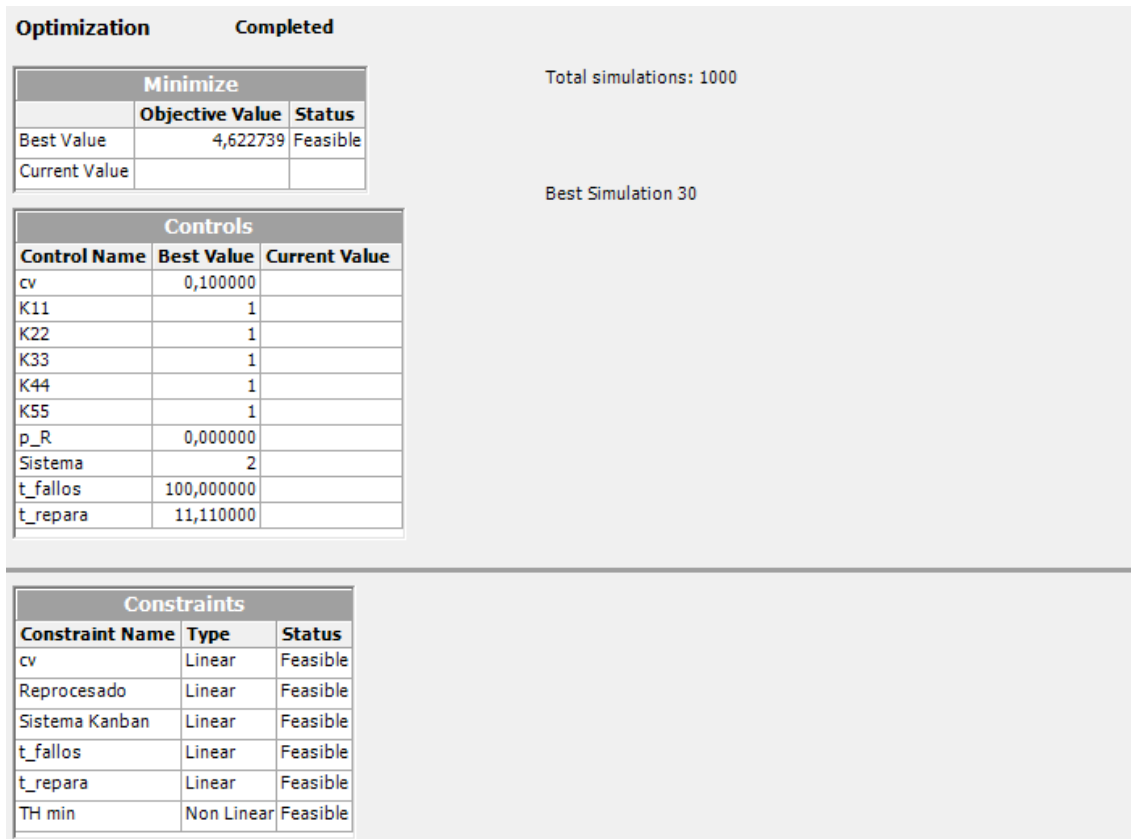


KANBAN PATRÓN DE AVERÍAS TIPO A; TH=80%; p_R=0%; cv=0.5



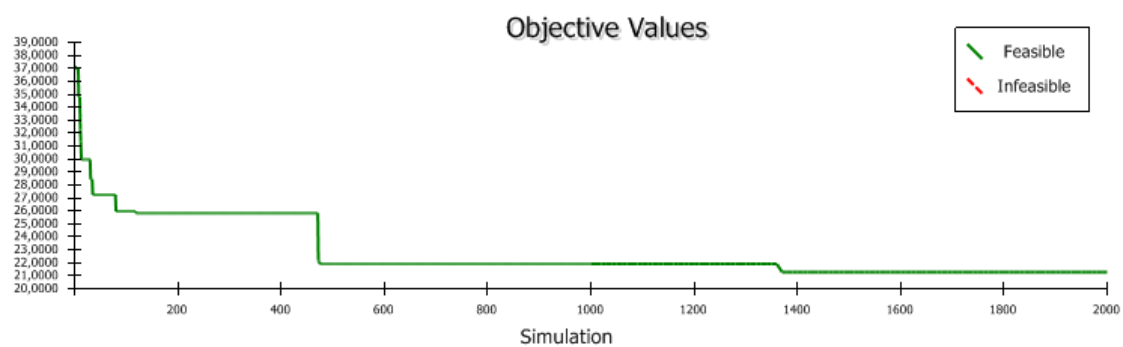
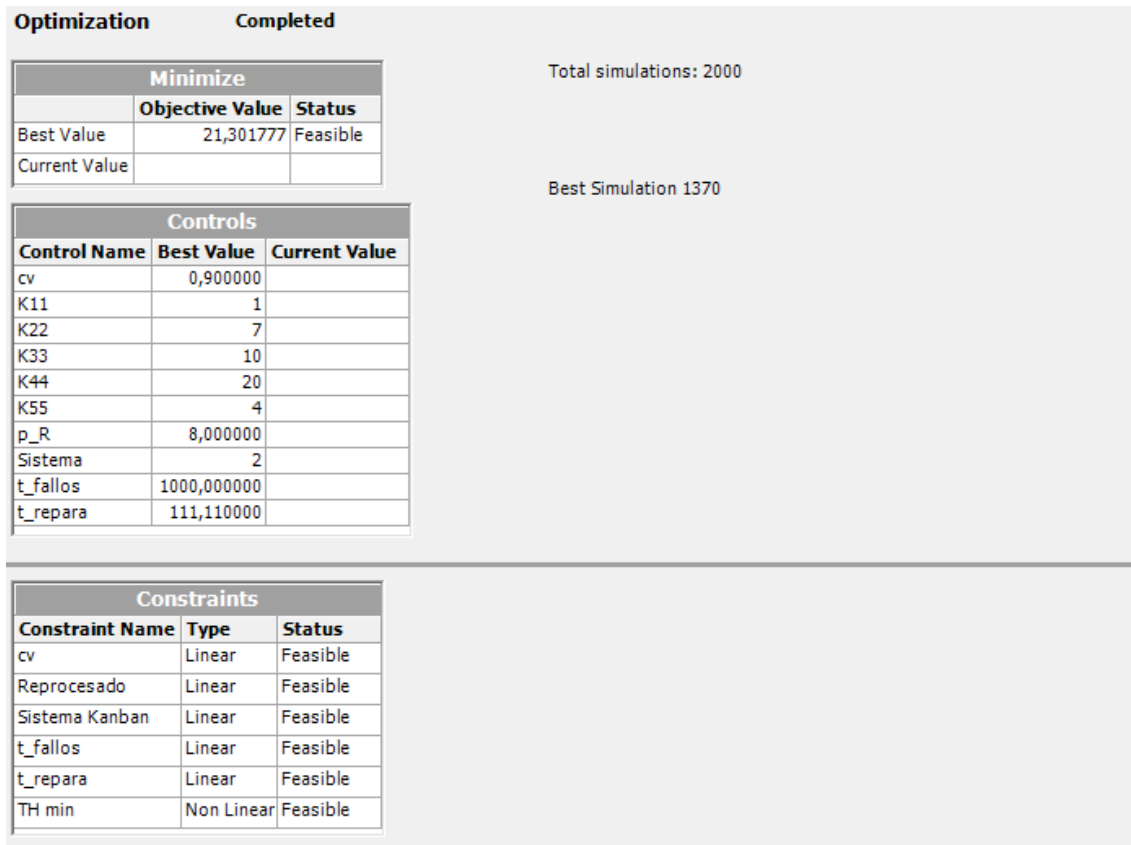


KANBAN PATRÓN DE AVERÍAS TIPO A; TH=80%; p_R=0%; cv=0.1



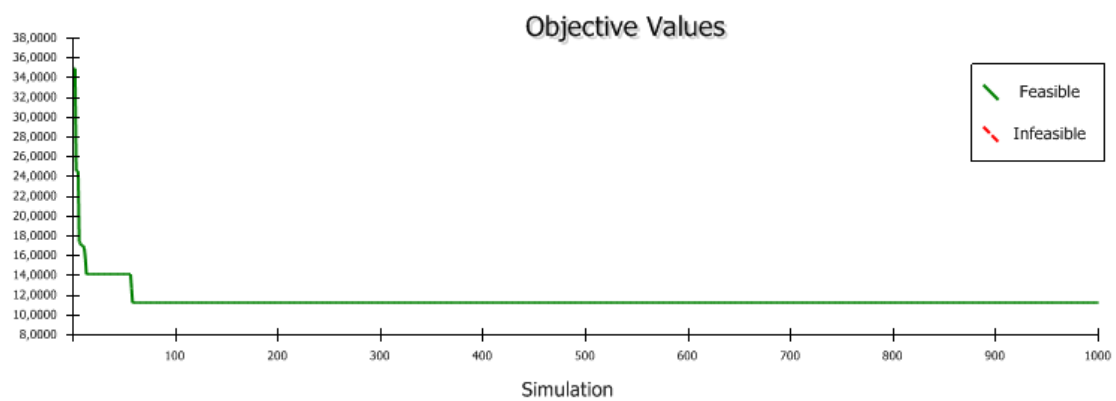
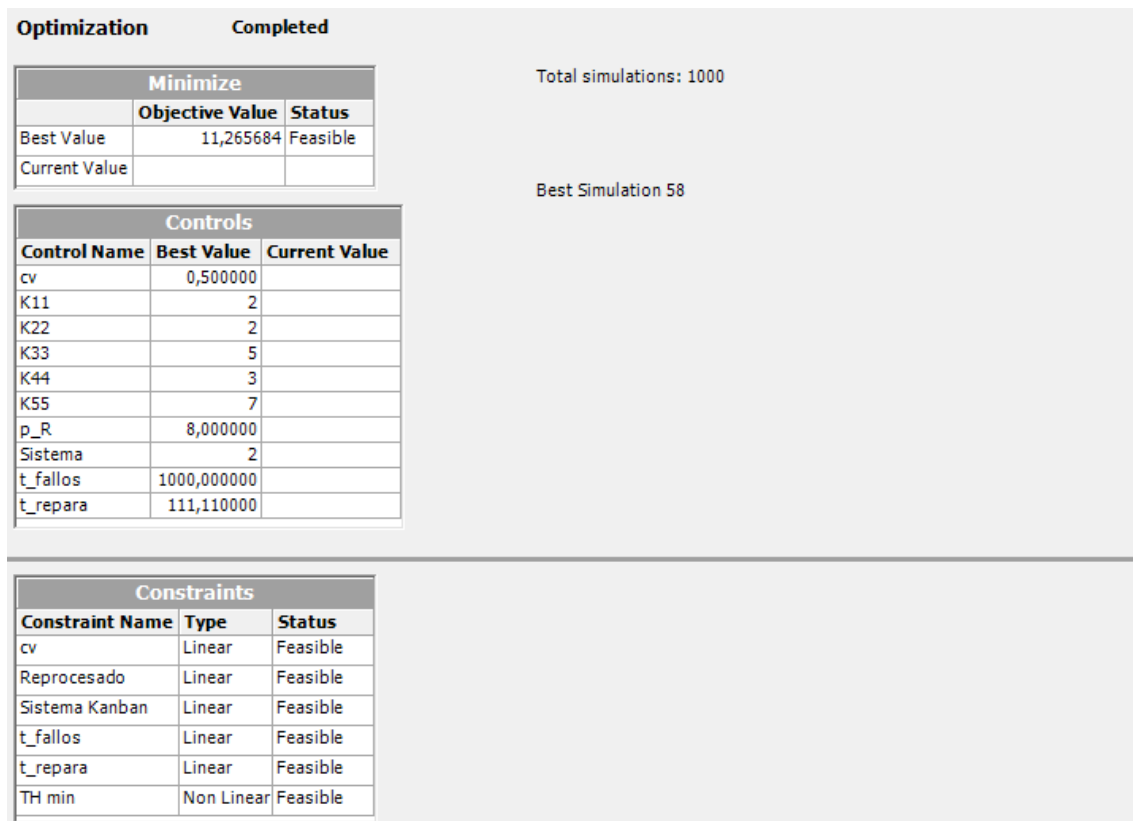


KANBAN PATRÓN DE AVERÍAS TIPO B; TH=80%; p_R=8%; cv=0.9



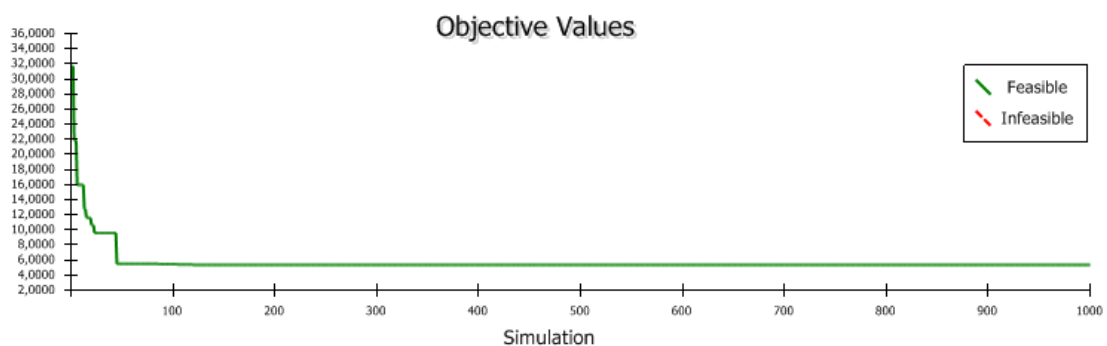
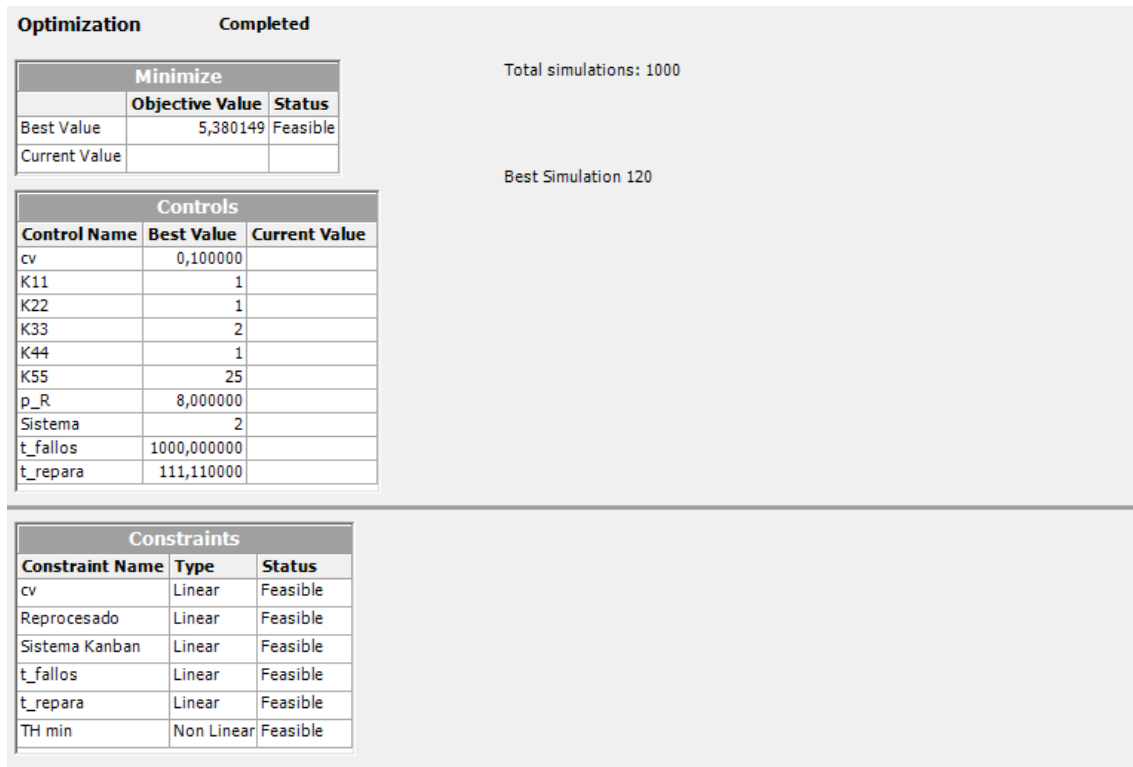


KANBAN PATRÓN DE AVERÍAS TIPO B; TH=80%; p_R=8%; cv=0.5



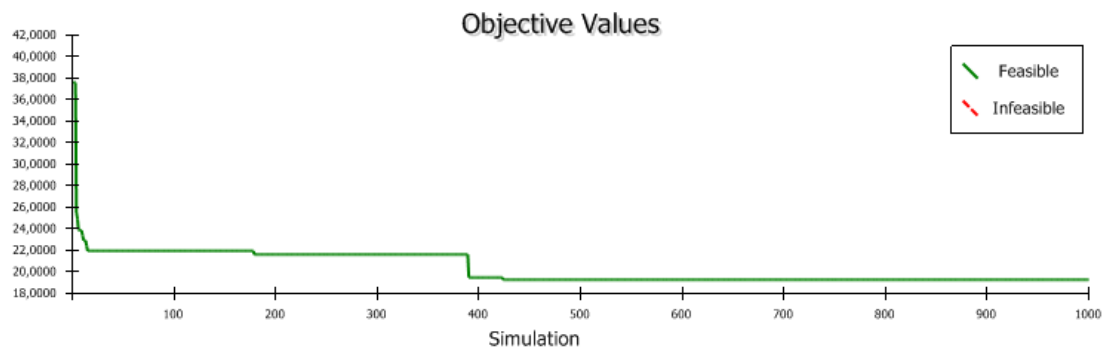
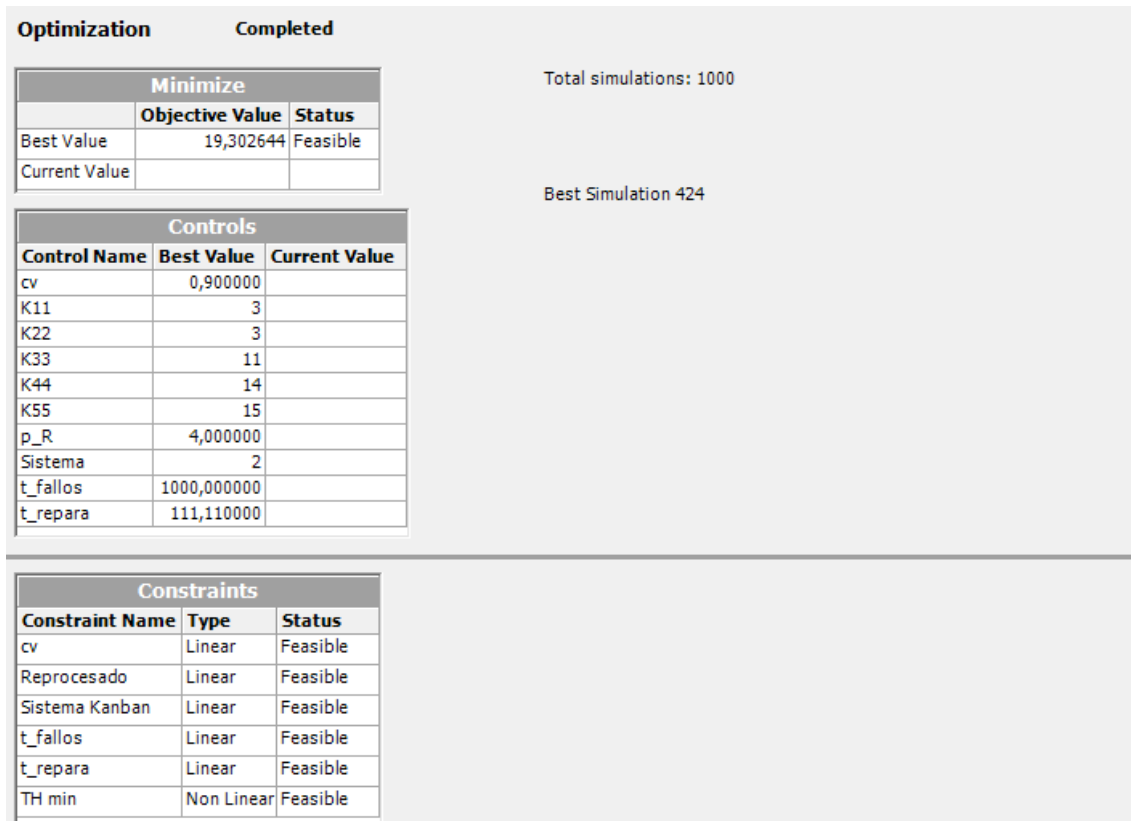


KANBAN PATRÓN DE AVERÍAS TIPO B; TH=80%; p_R=8%; cv=0.1



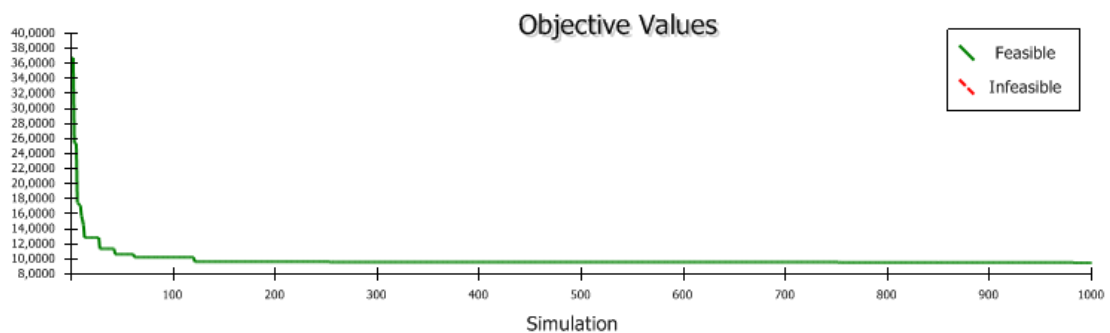
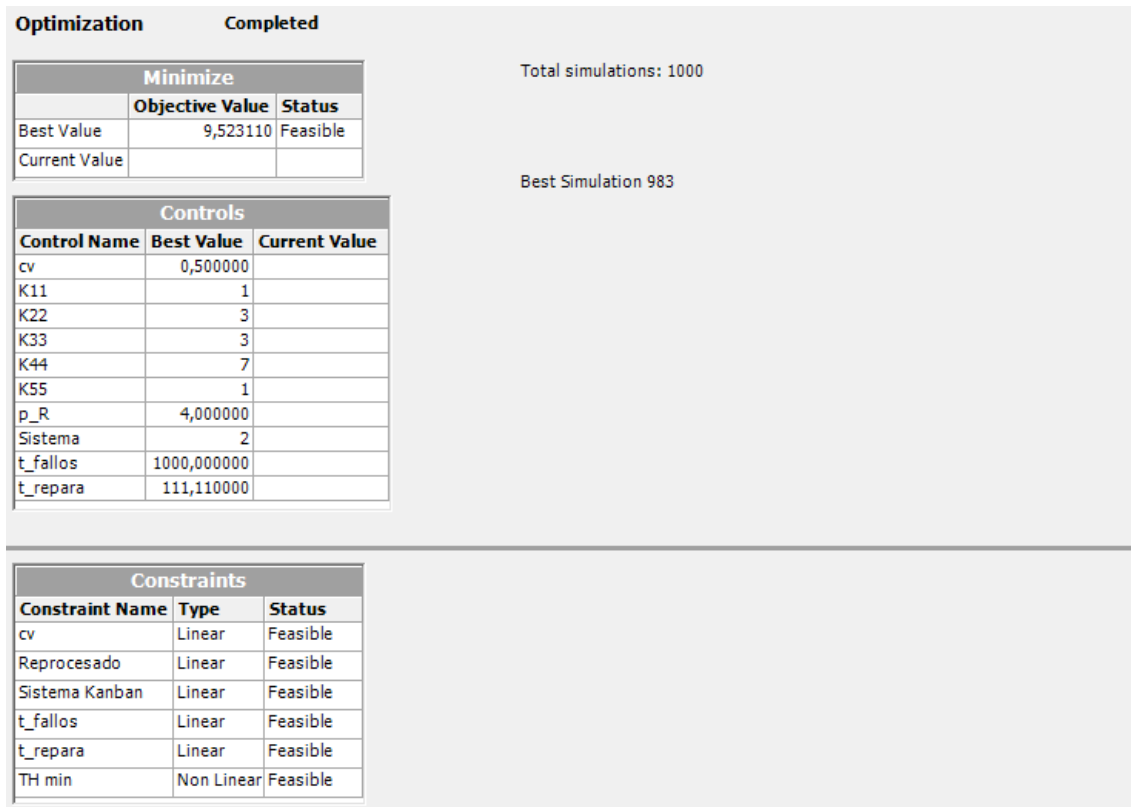


KANBAN PATRÓN DE AVERÍAS TIPO B; TH=80%; p_R=4; cv=0.9





KANBAN PATRÓN DE AVERÍAS TIPO B; TH=80%; p_R=4; cv=0.5





Optimization Completed

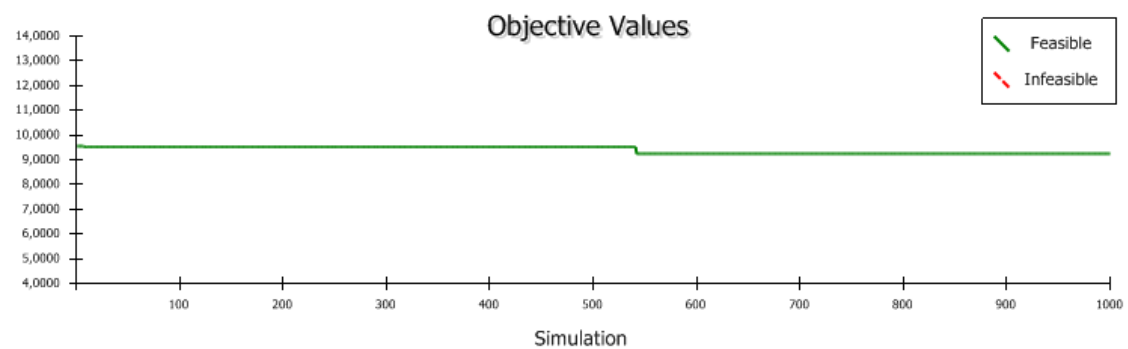
Minimize		
	Objective Value	Status
Best Value	9,246029	Feasible
Current Value		

Total simulations: 1000

Best Simulation 542

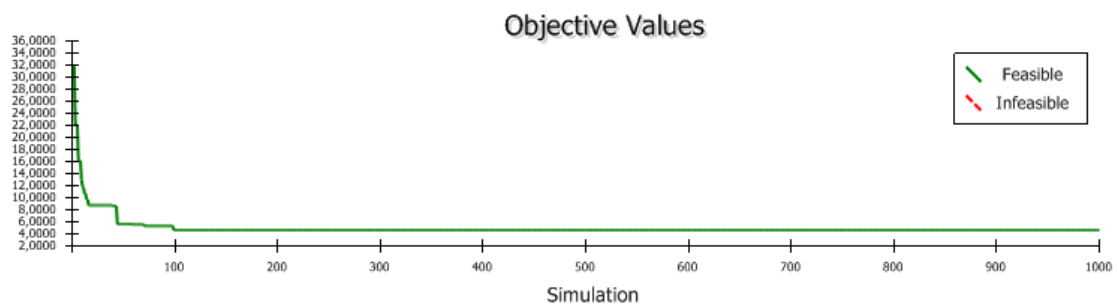
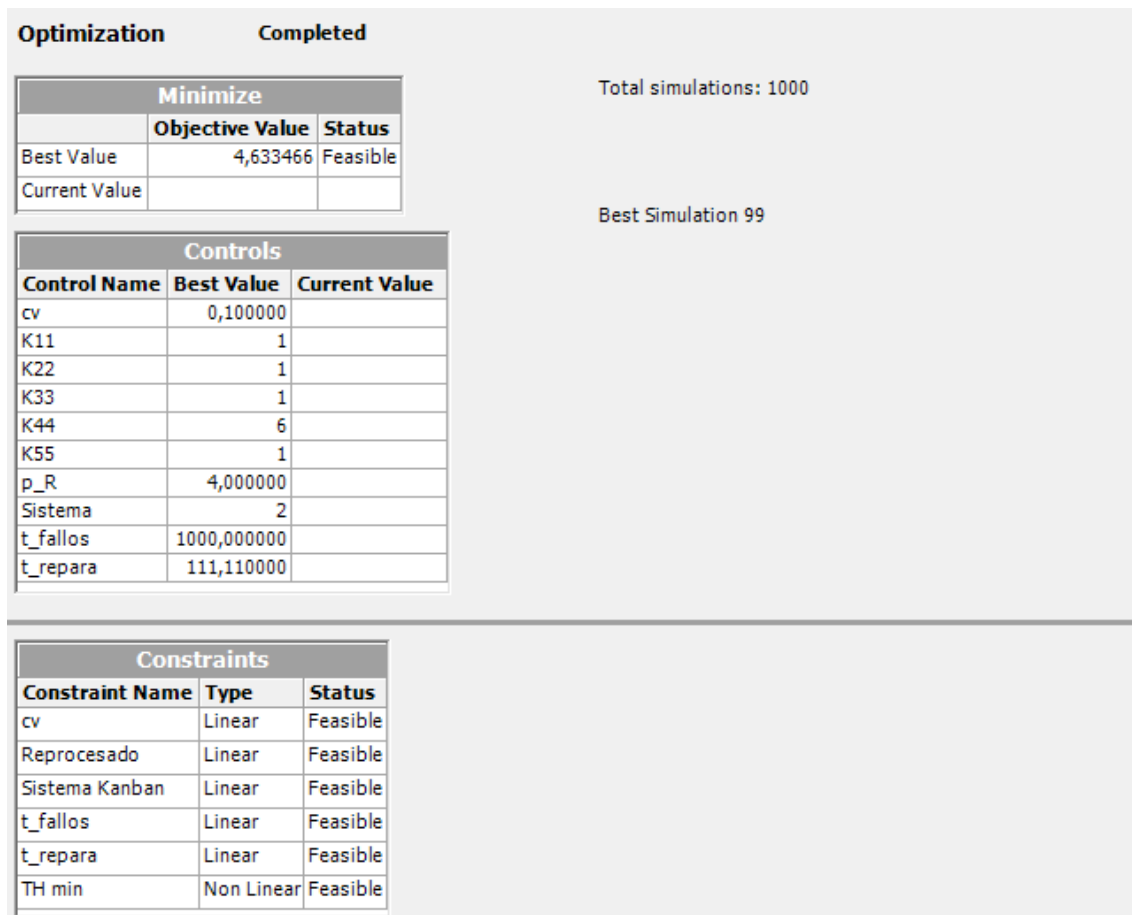
Controls		
Control Name	Best Value	Current Value
cv	0,500000	
K11	1	
K22	3	
K33	3	
K44	3	
K55	10	
p_R	4,000000	
Sistema	2	
t_fallos	1000,000000	
t_repara	111,110000	

Constraints		
Constraint Name	Type	Status
cv	Linear	Feasible
Reprocesado	Linear	Feasible
Sistema Kanban	Linear	Feasible
t_fallos	Linear	Feasible
t_repara	Linear	Feasible
TH min	Non Linear	Feasible



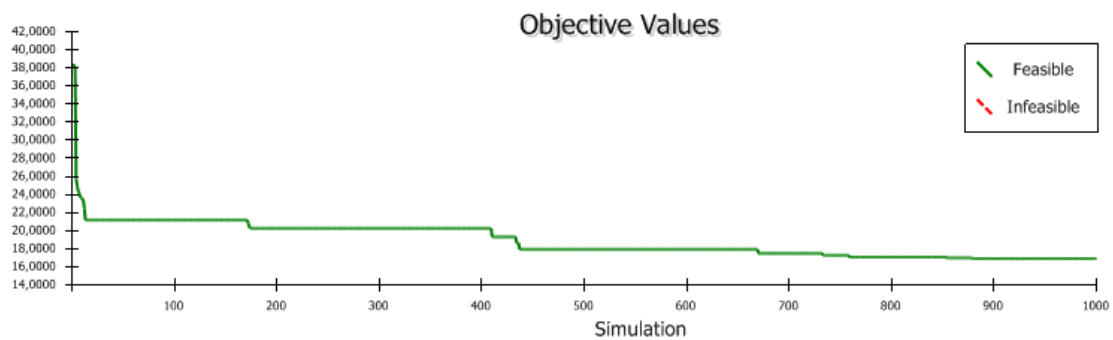
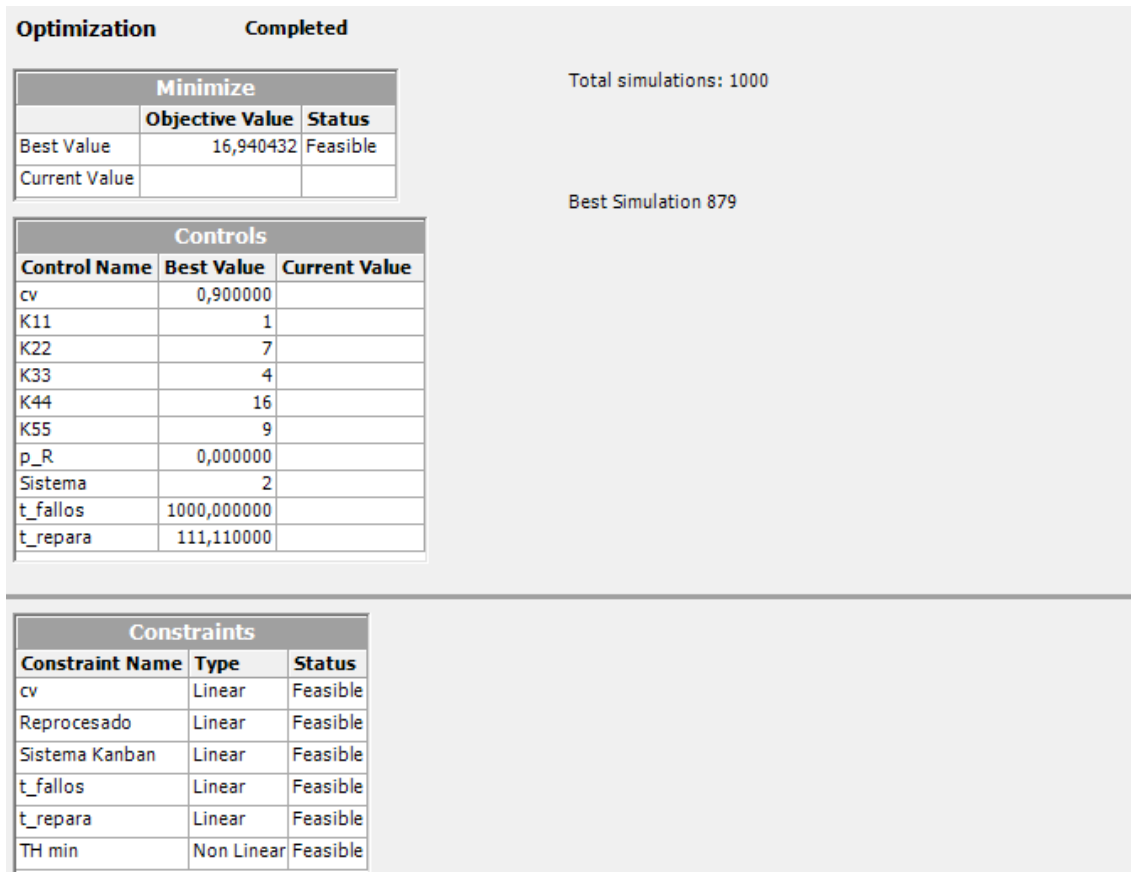


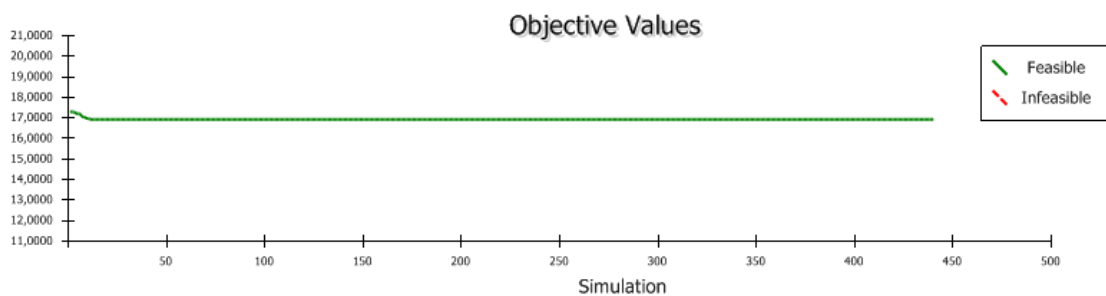
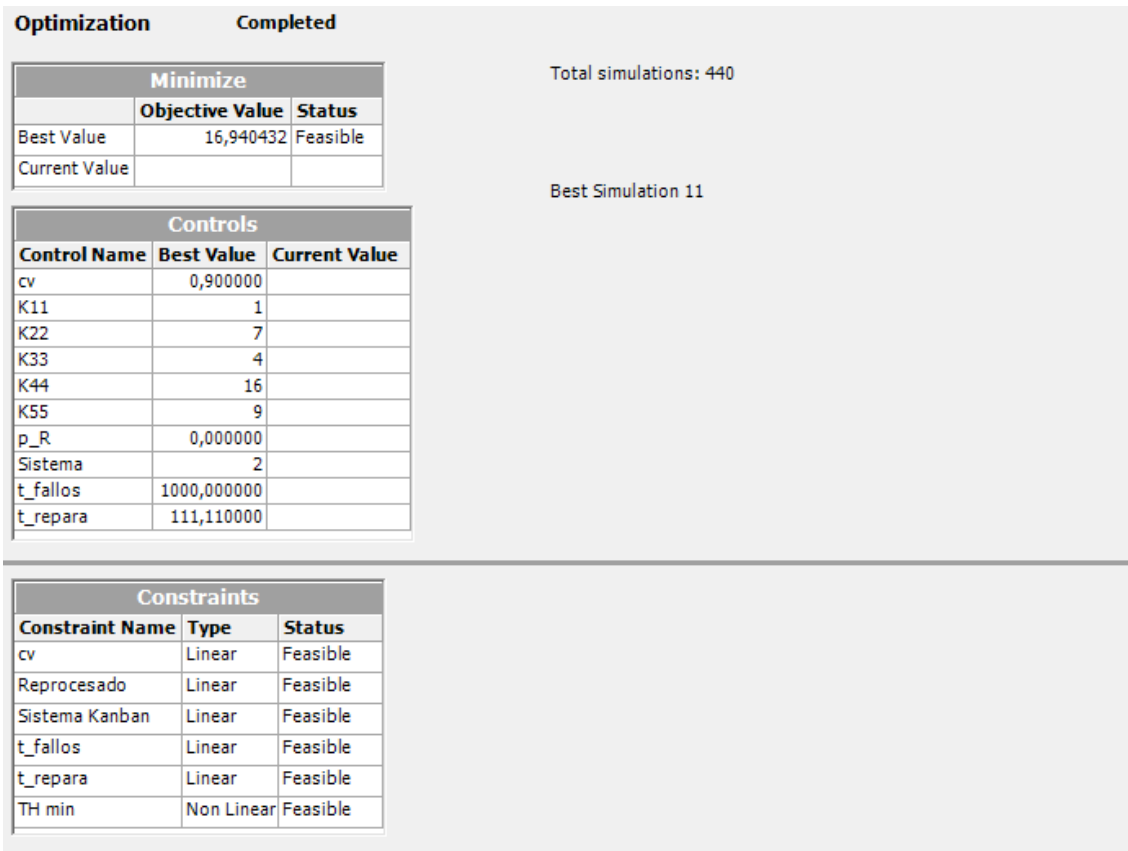
KANBAN PATRÓN DE AVERÍAS TIPO B; TH=80%; p_R=4%; cv=0.1





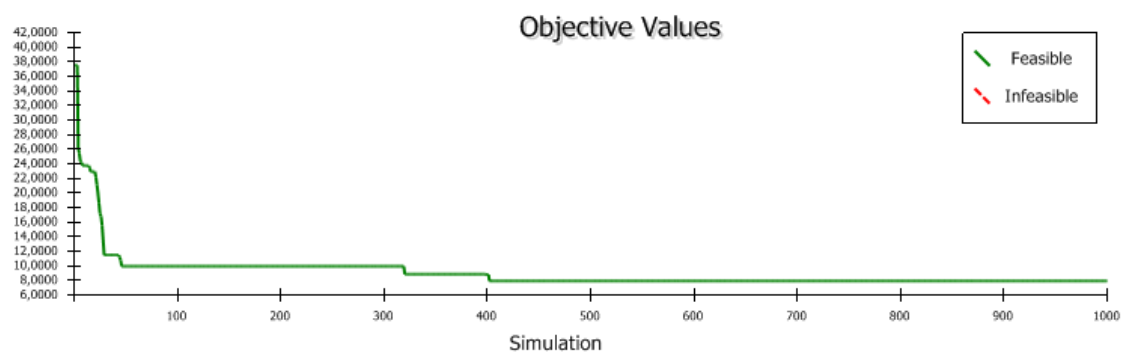
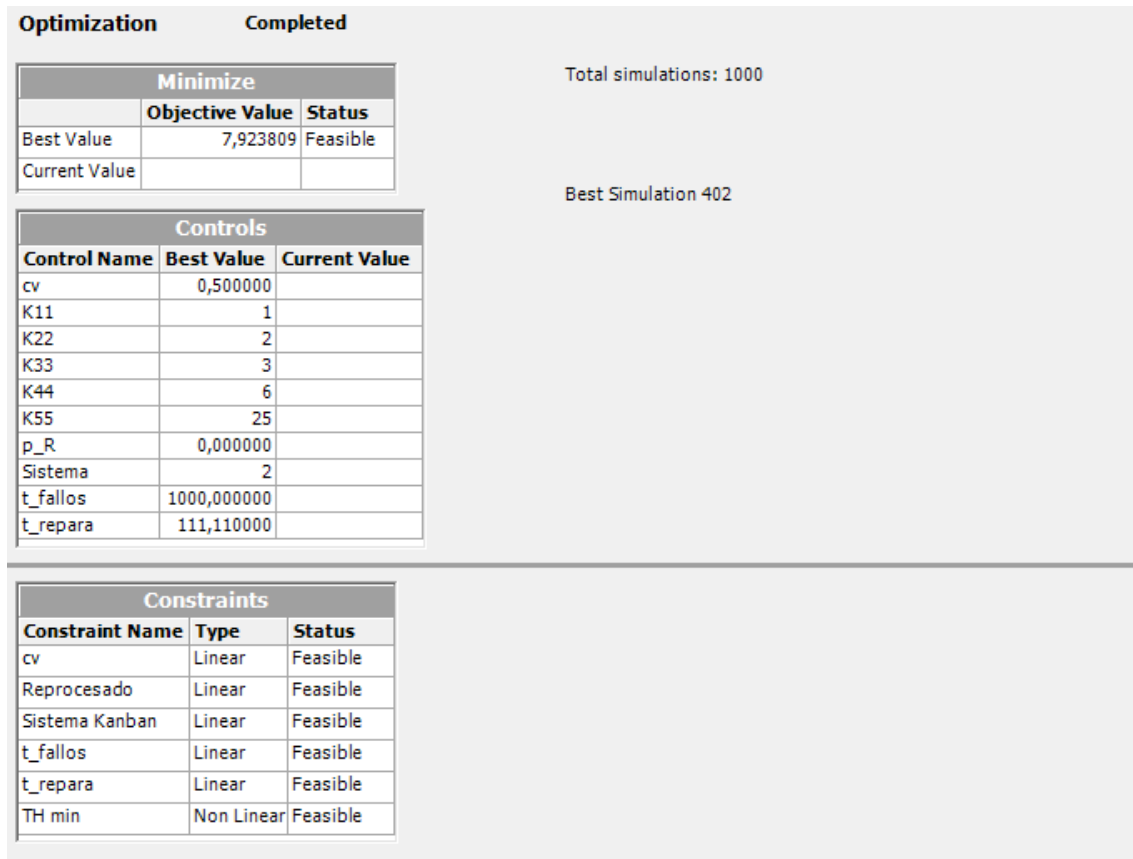
KANBAN PATRÓN DE AVERÍAS TIPO B; TH=80%; p_R=0%; cv=0.9





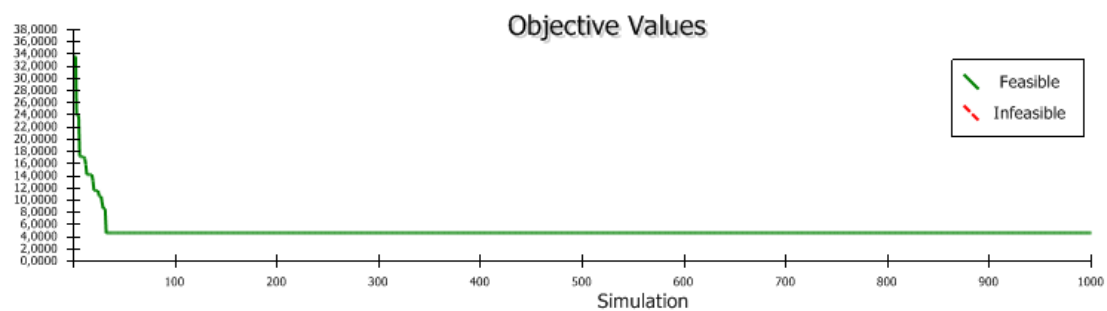
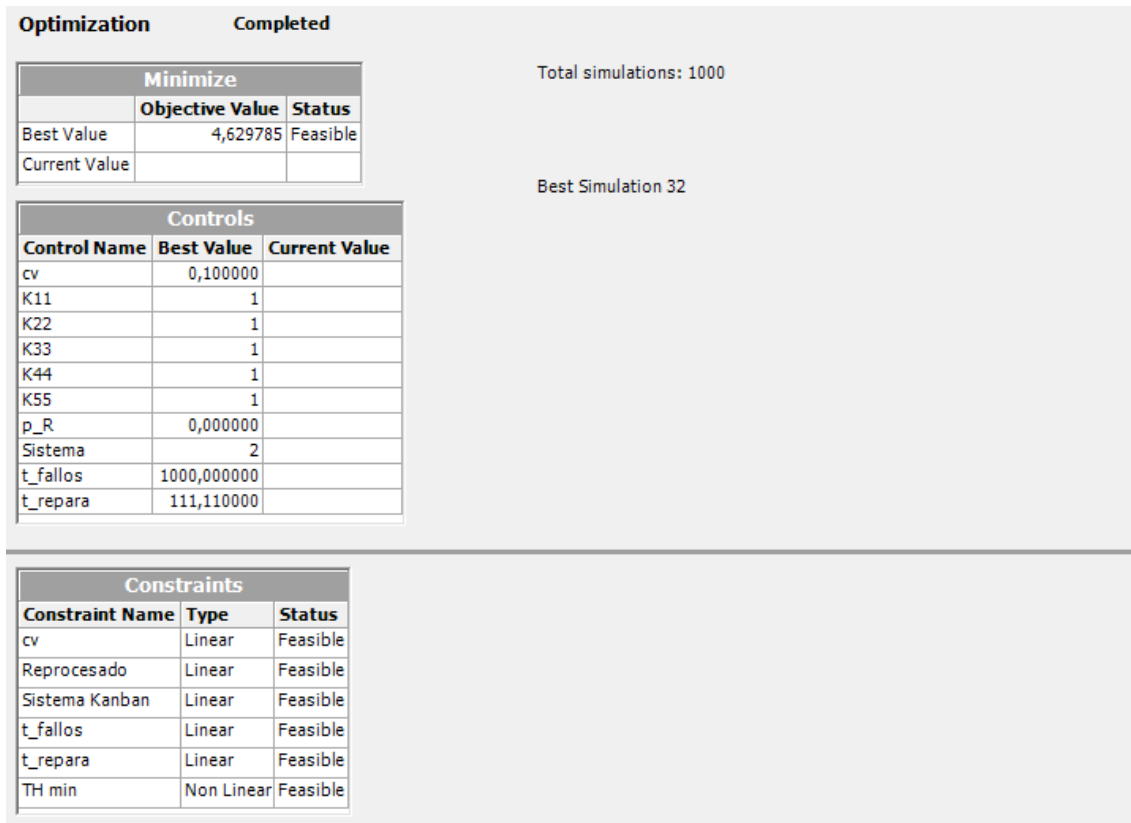


KANBAN PATRÓN DE AVERÍAS TIPO B ; TH=80%; p_R=0%; cv=0.5





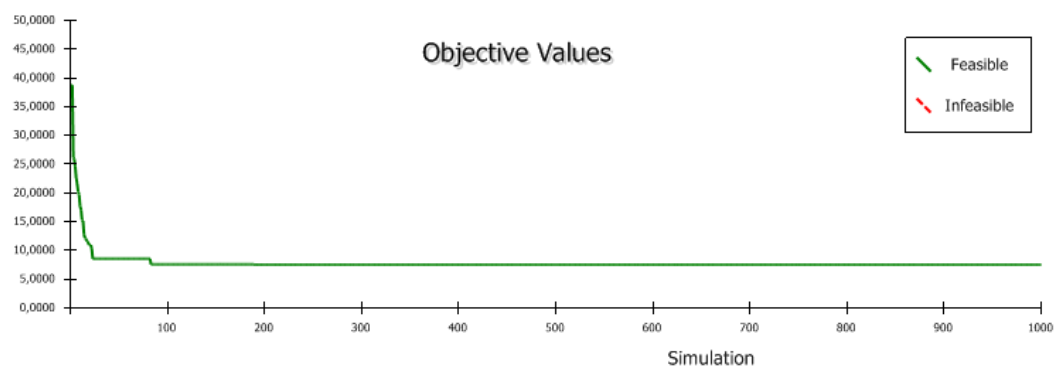
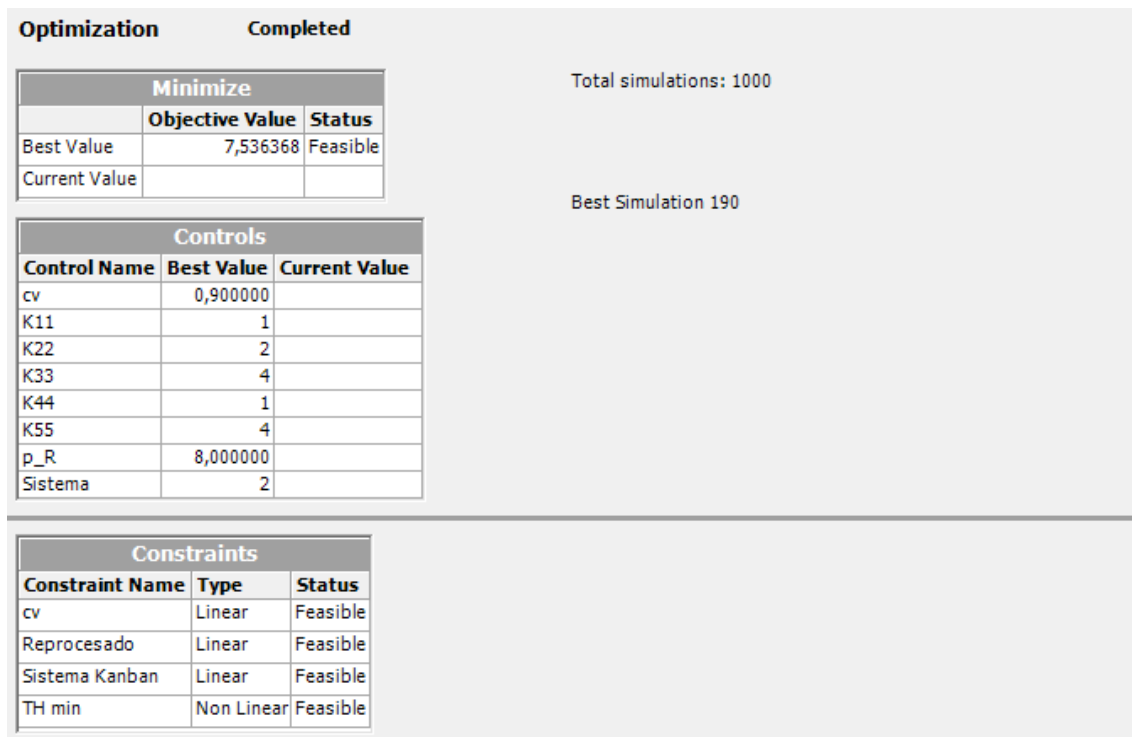
KANBAN PATRÓN DE AVERÍAS TIPO B; TH=80%; p_R=0%; cv=0.1





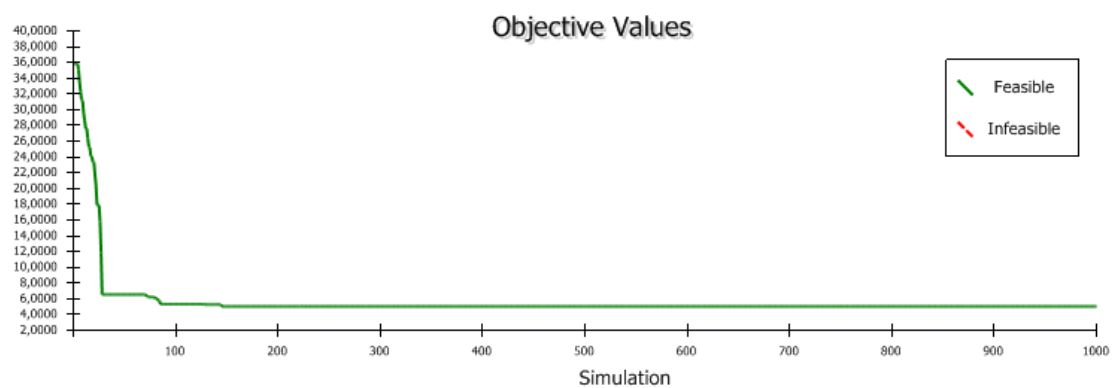
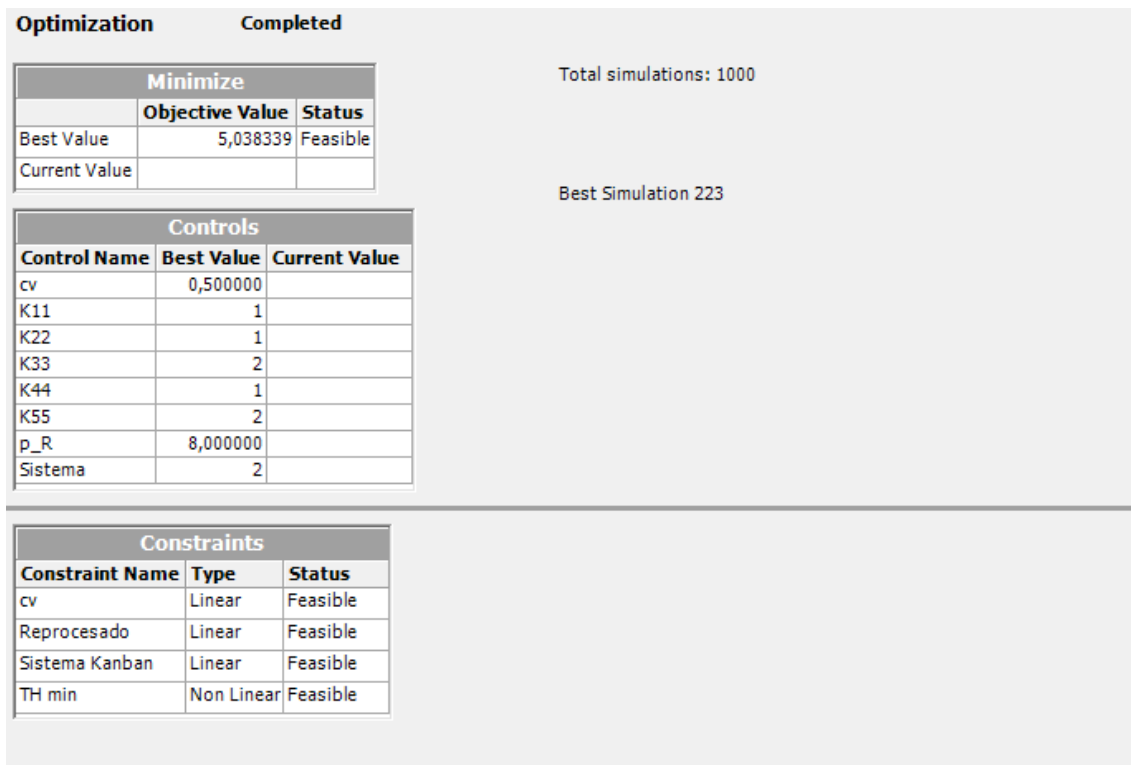
B. KANBAN TH=70%

KANBAN SIN FALLOS; TH=70%; p_R=8%; cv=0.9



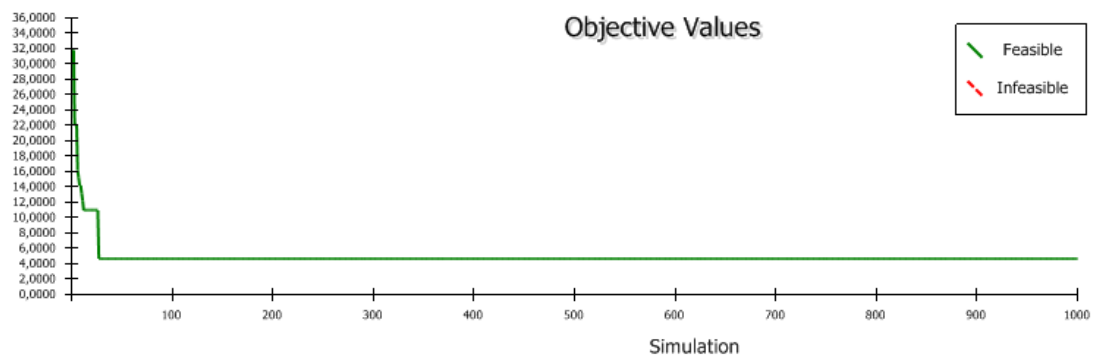
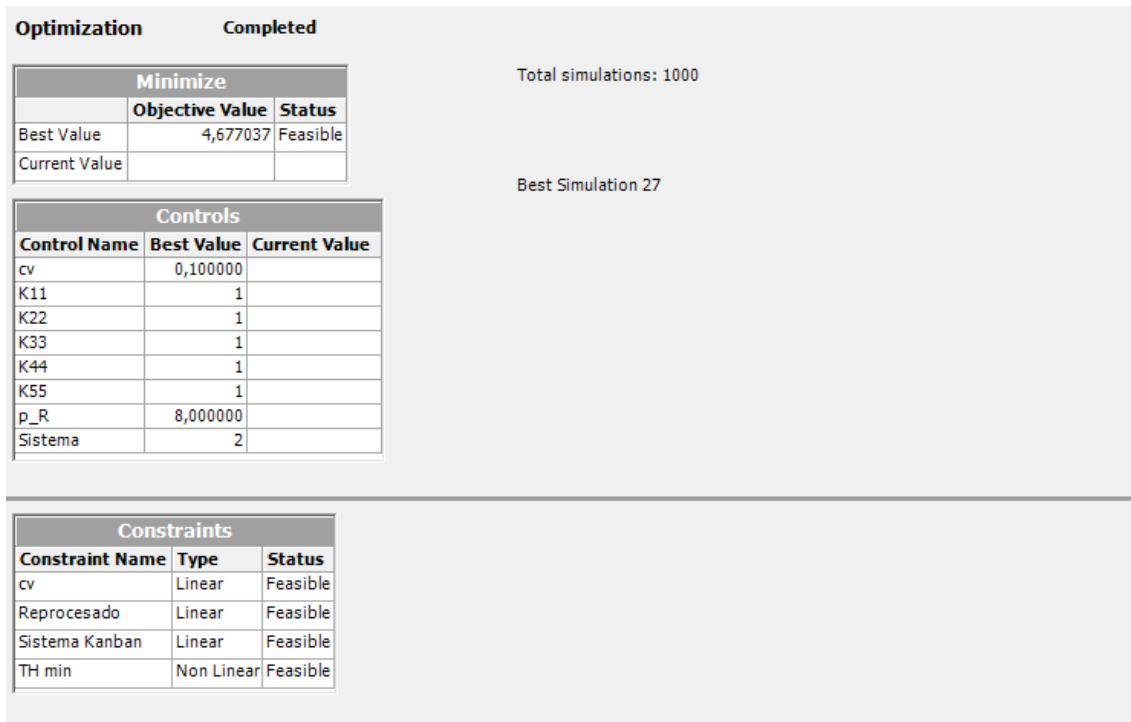


KANBAN SIN FALLOS; TH=70%; p_R=8%; cv=0.5



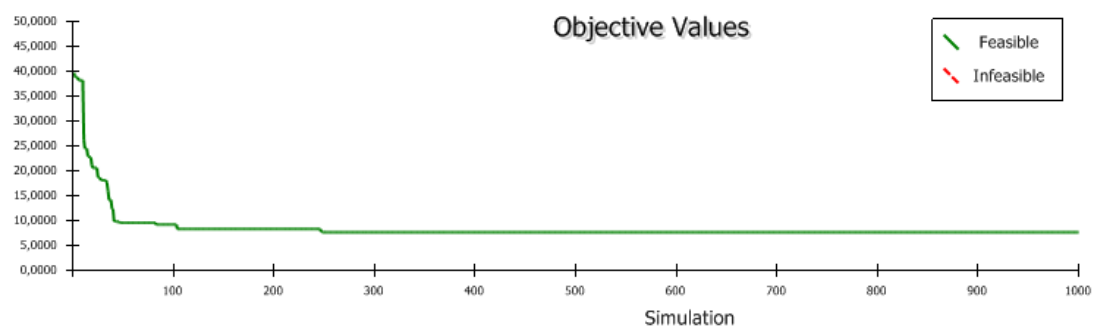
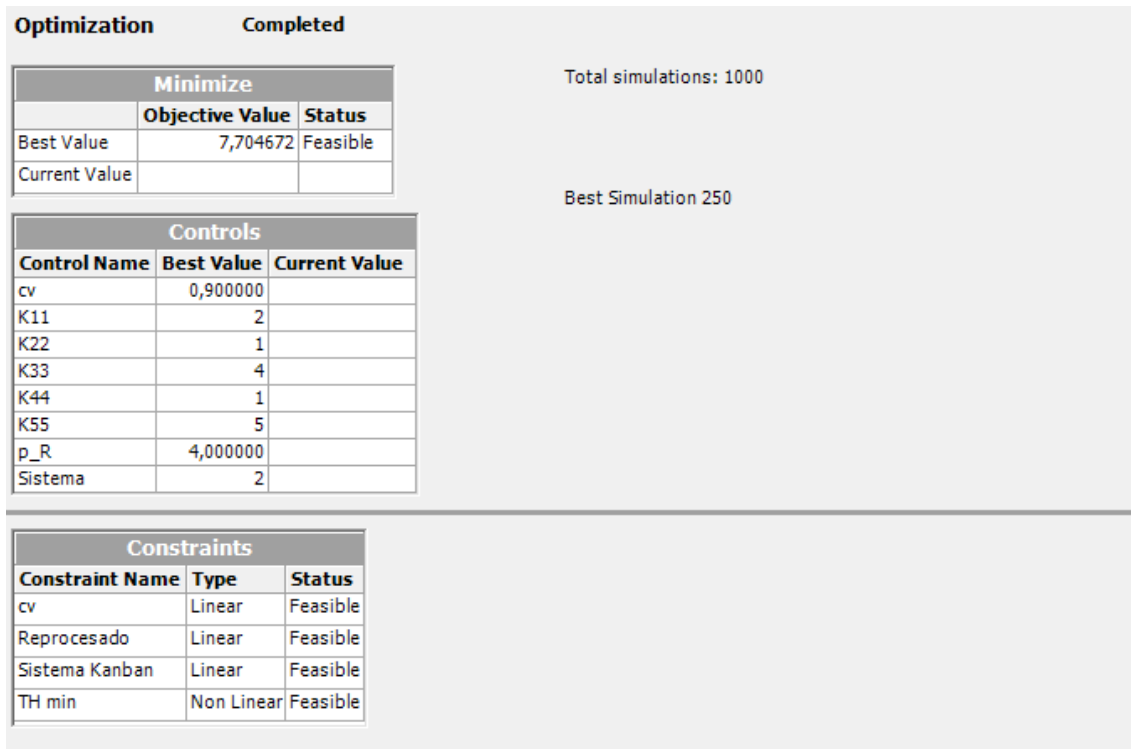


KANBAN SIN FALLOS; TH=70%; p_R=8%; cv=0.1



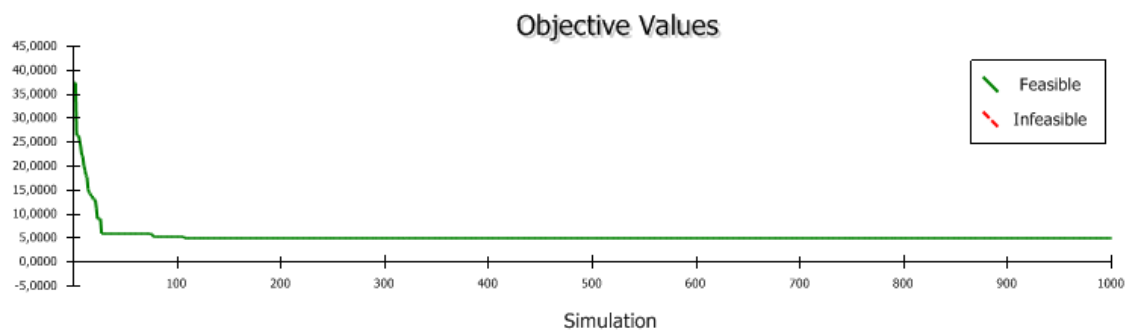
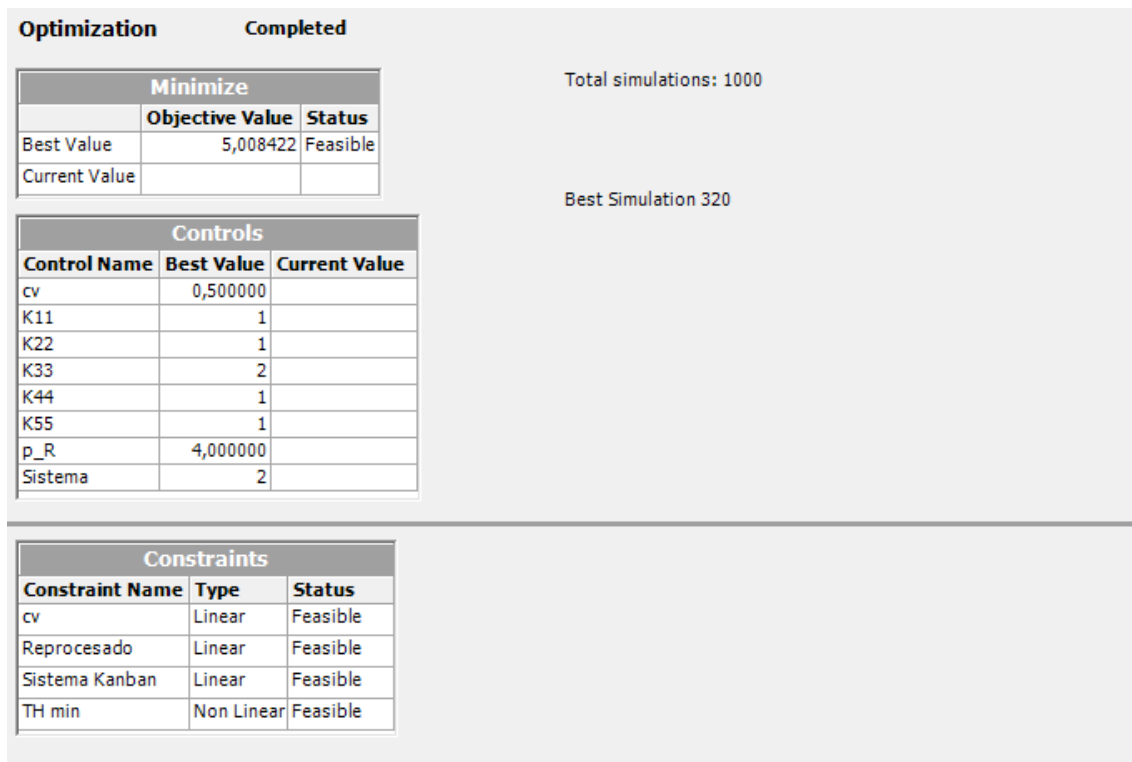


KANBAN SIN FALLOS; TH=70%; p_R=4%; cv=0.9



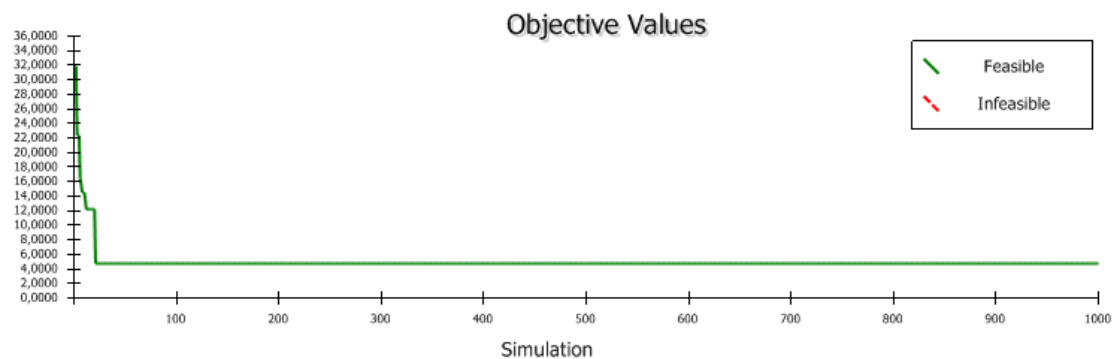
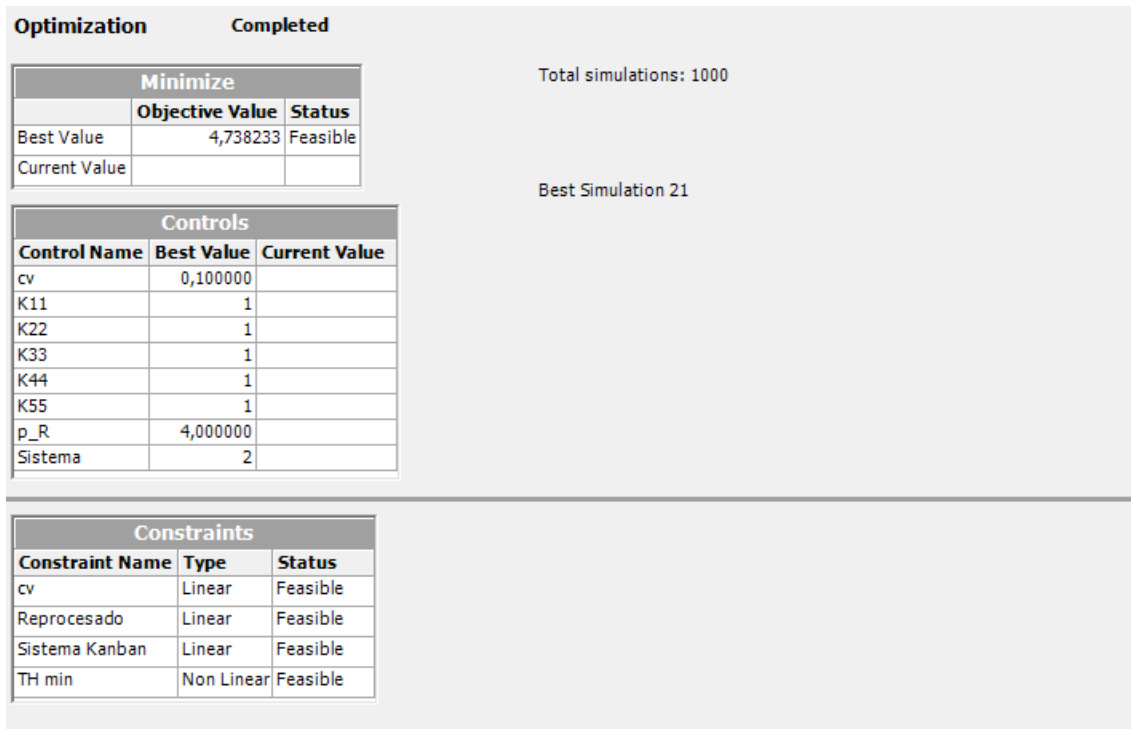


KANBAN SIN FALLOS; TH=70%; p_R=4%; cv=0.5



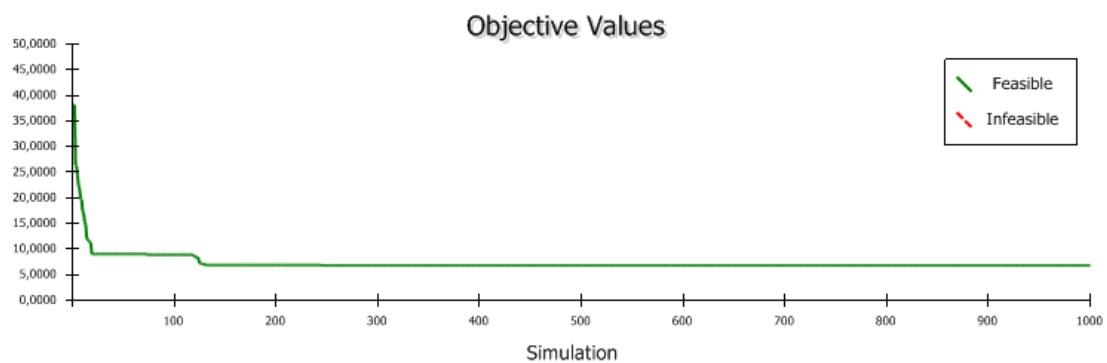
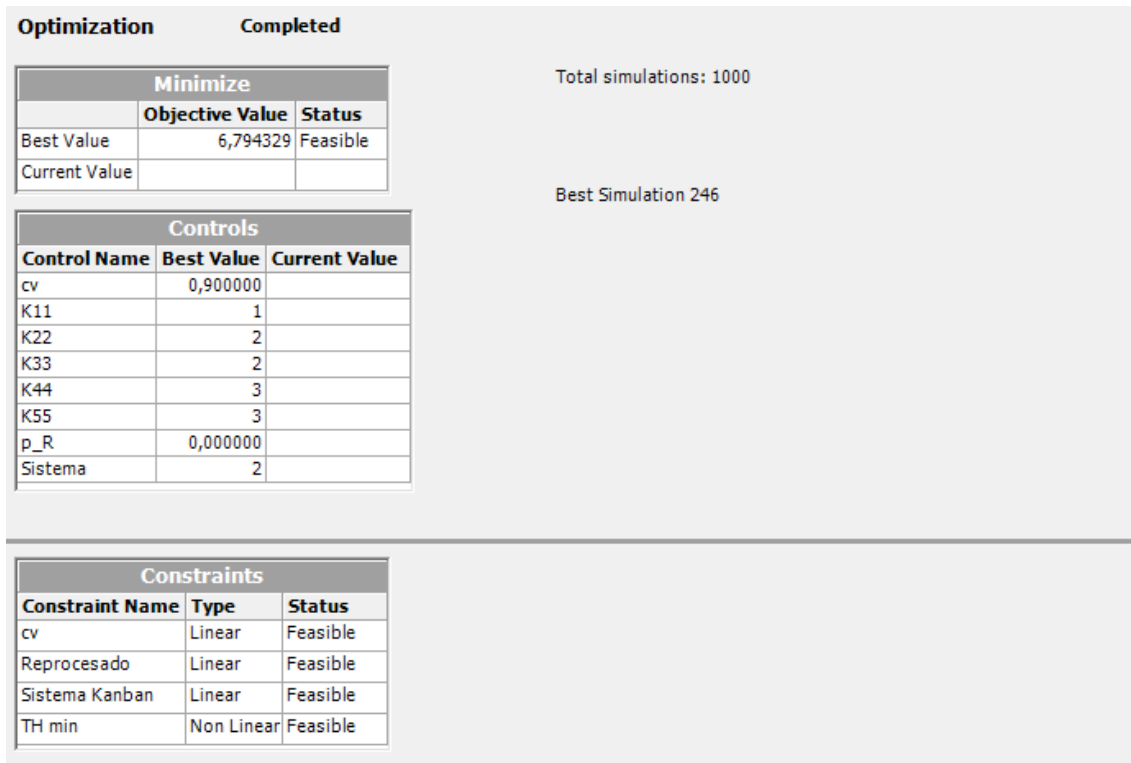


KANBAN SIN FALLOS; TH=70%; p_R=4%; cv=0.1



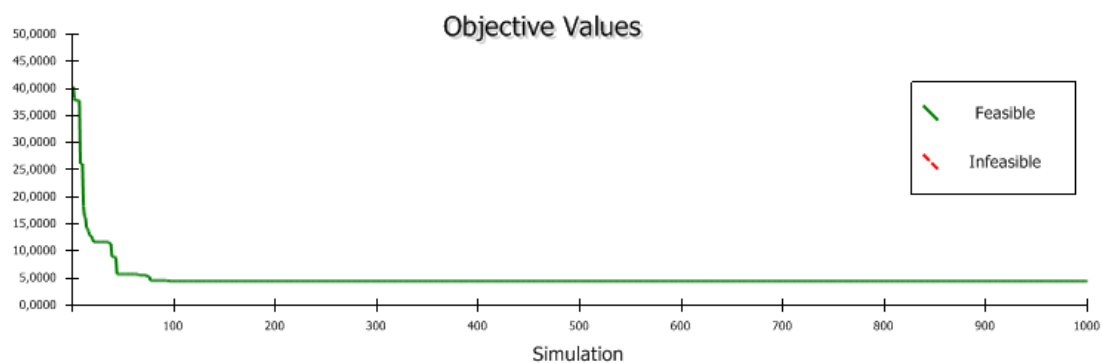
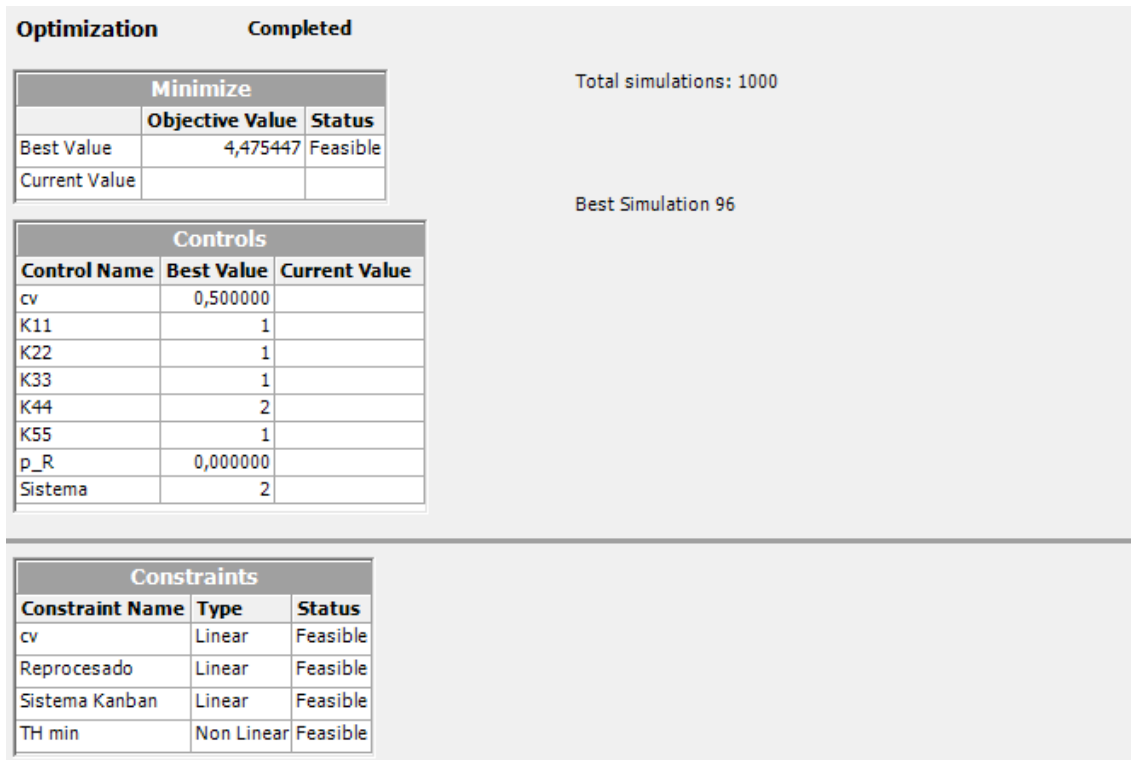


KANBAN SIN FALLOS; TH=70%; p_R=0%; cv=0.9



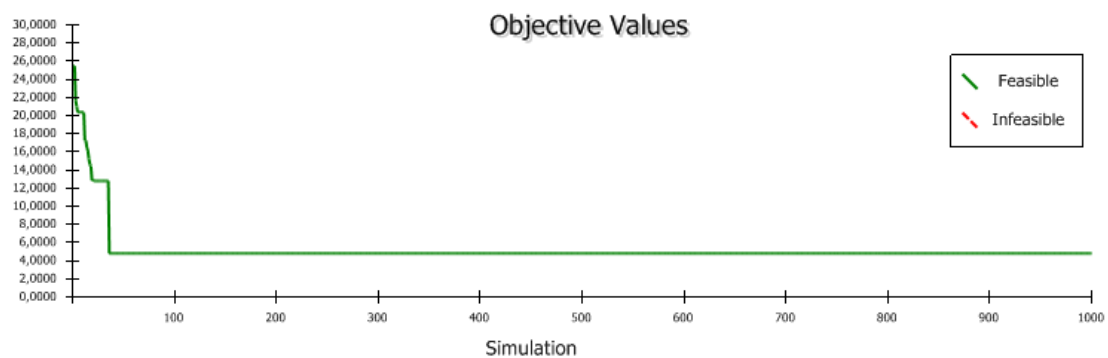
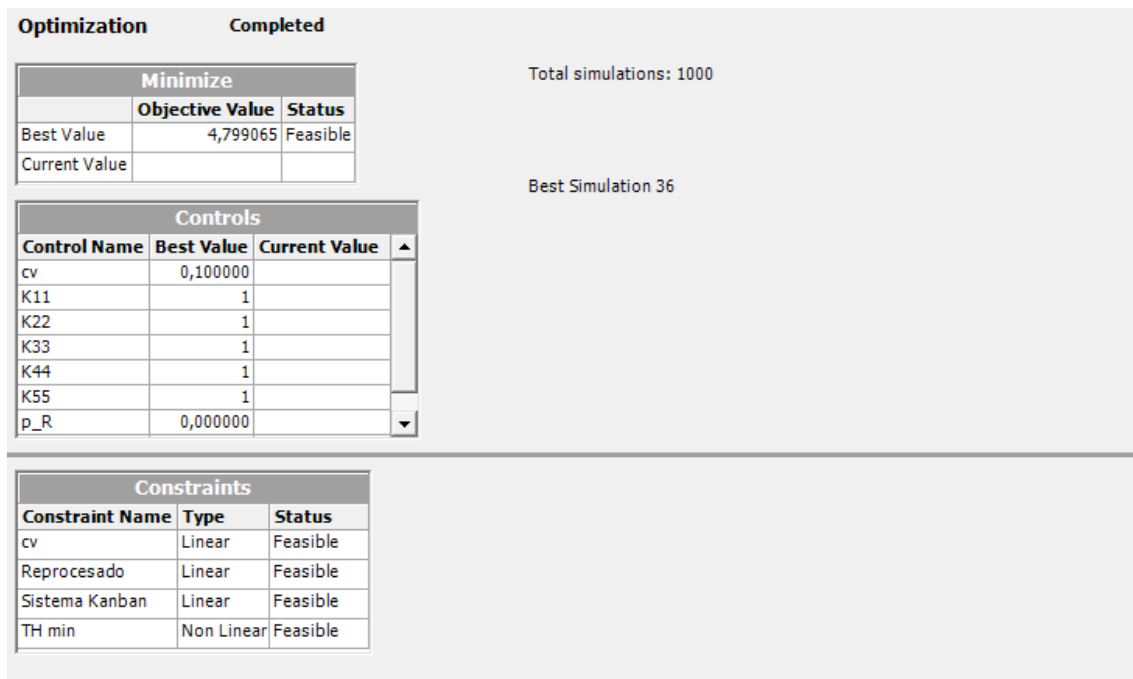


KANBAN SIN FALLOS; TH=70%; p_R=0%; cv=0.5



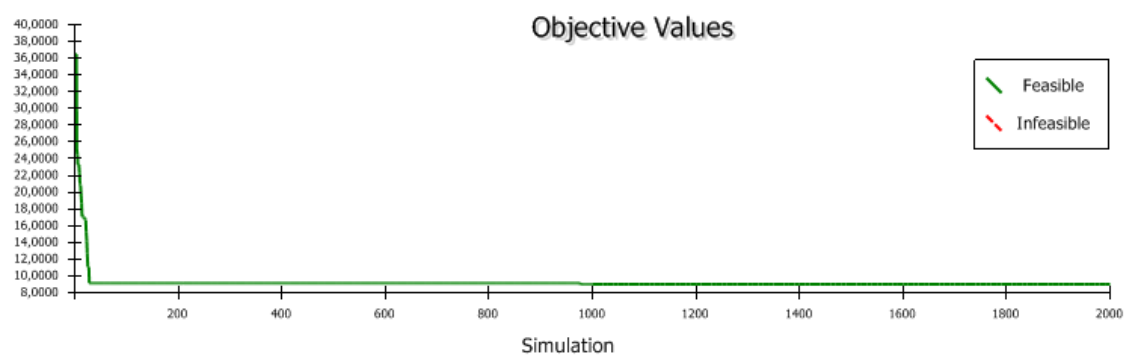
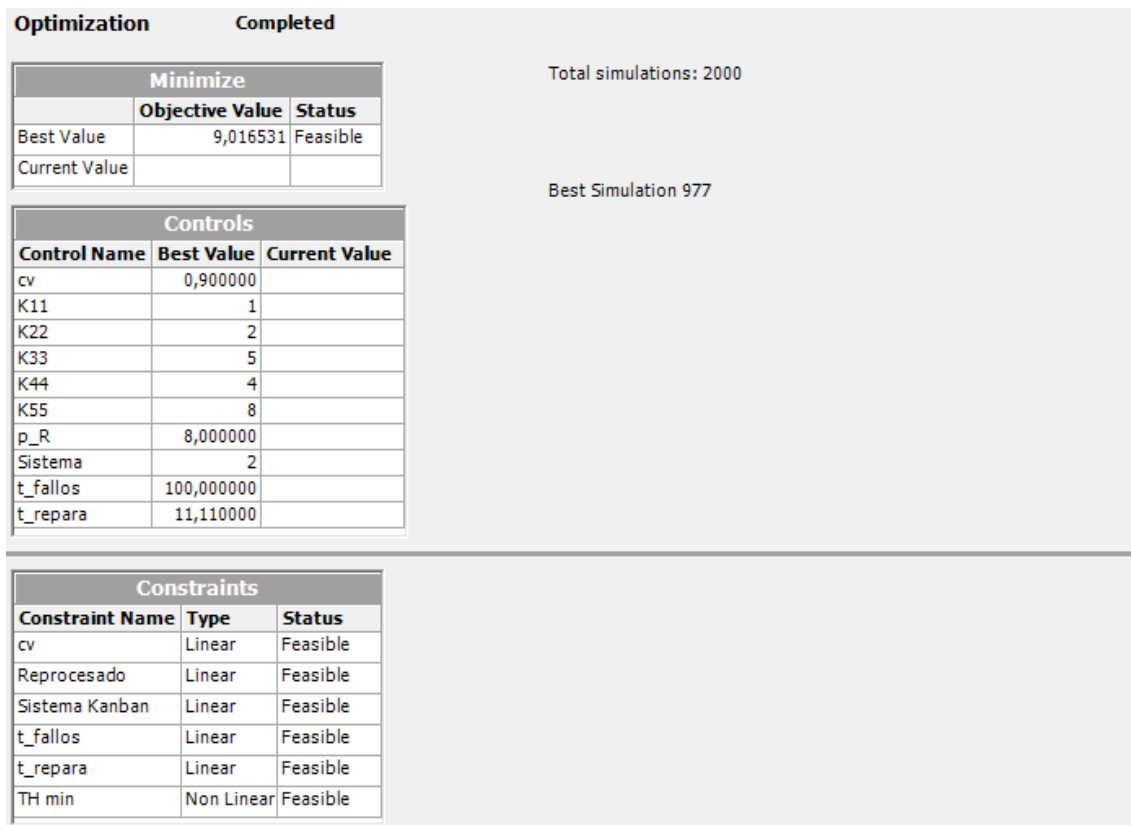


KANBAN SIN FALLOS; TH=70%; p_R=0%; cv=0.1



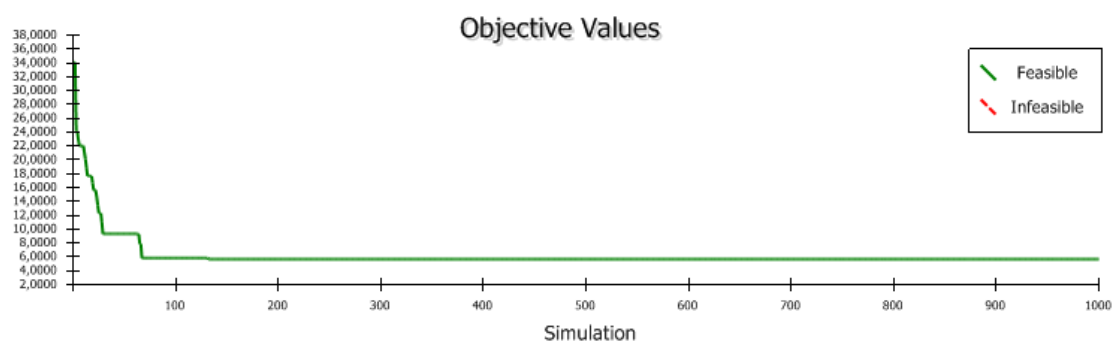
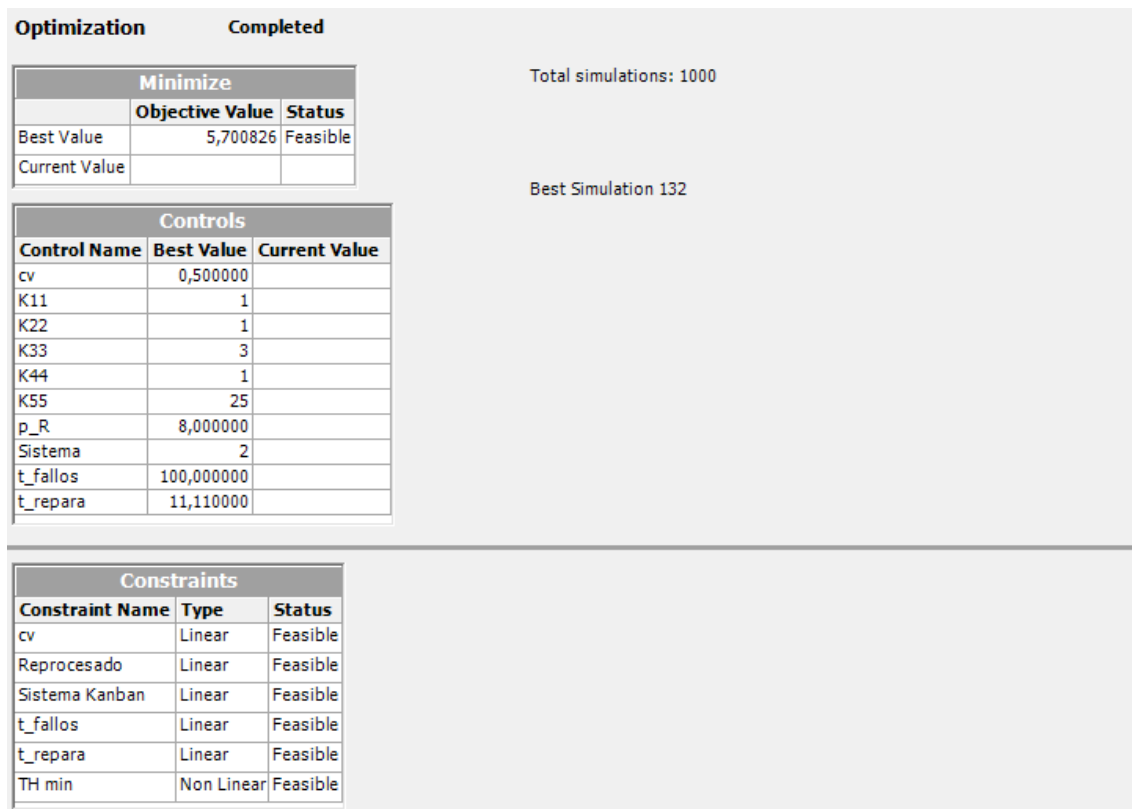


KANBAN PATRÓN DE AVERÍAS TIPO A; TH=70%; p_R=8%;cv=0.9



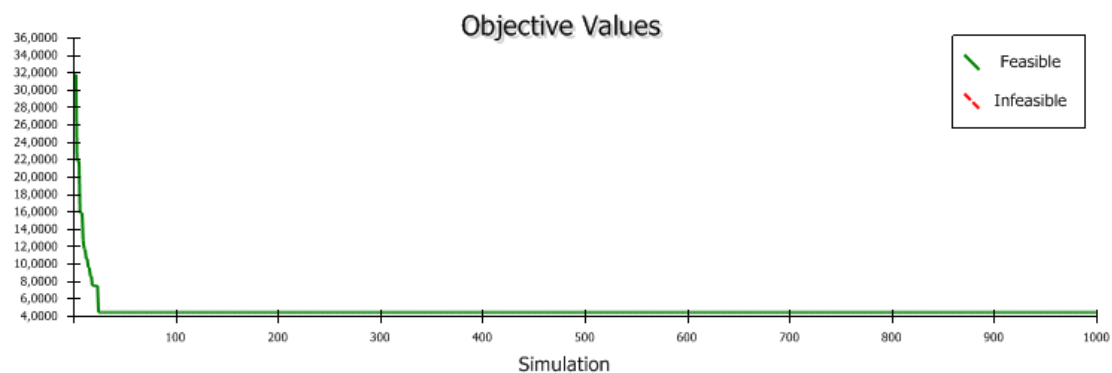
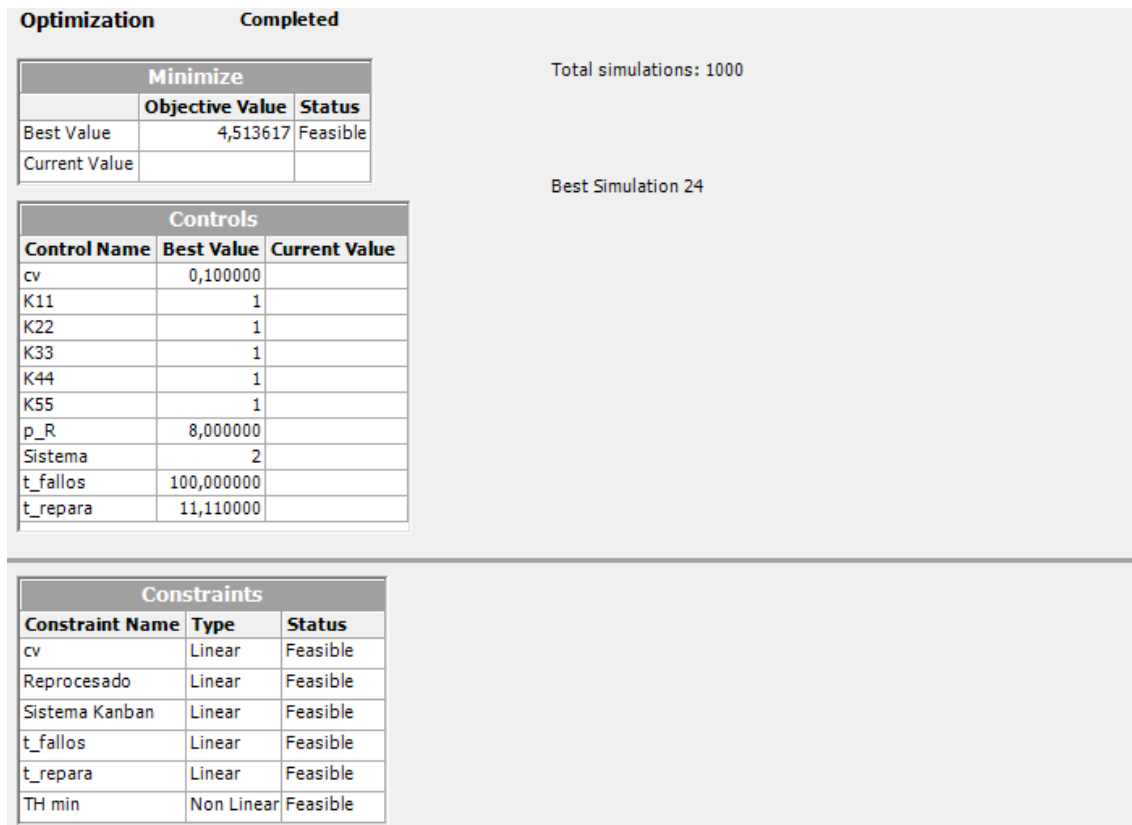


KANBAN PATRÓN DE AVERÍAS TIPO A; TH=70%; p_R=8%; cv=0.5



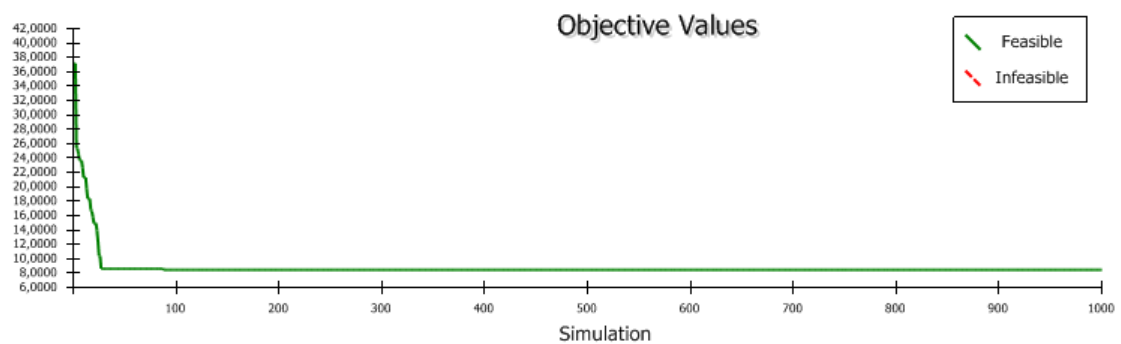
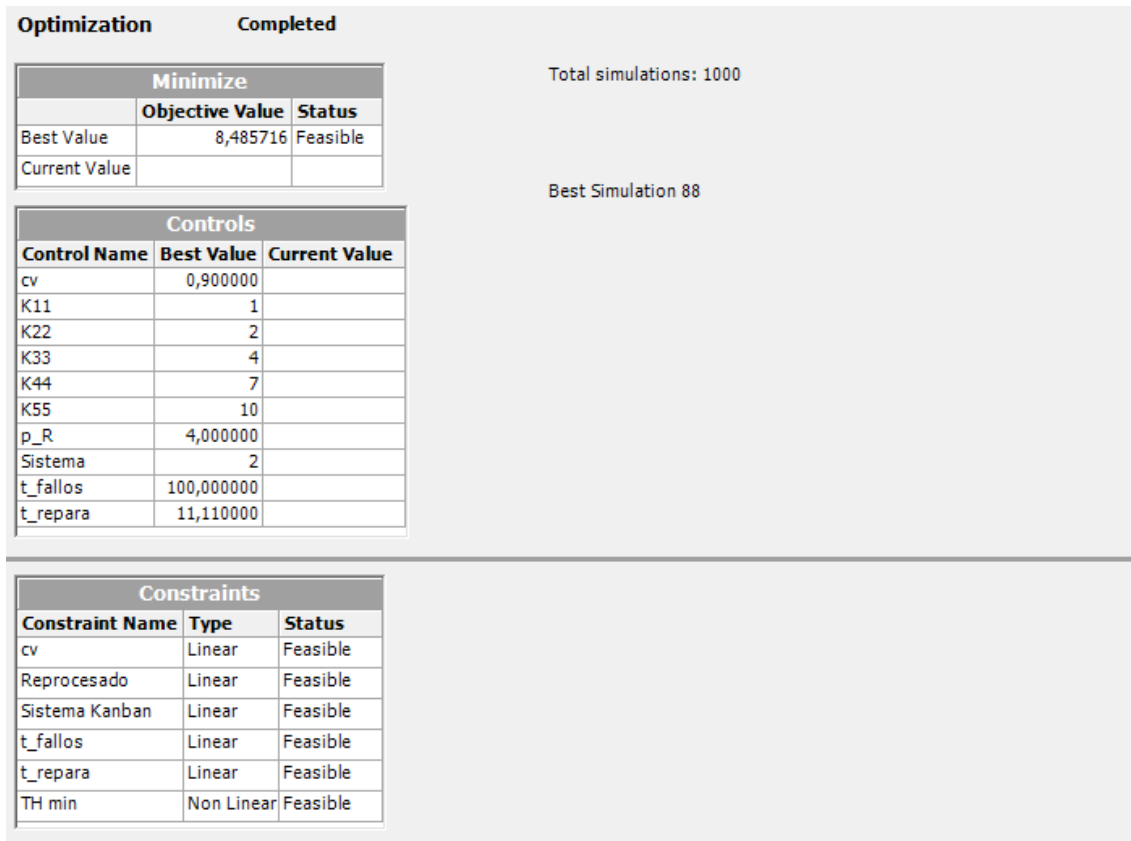


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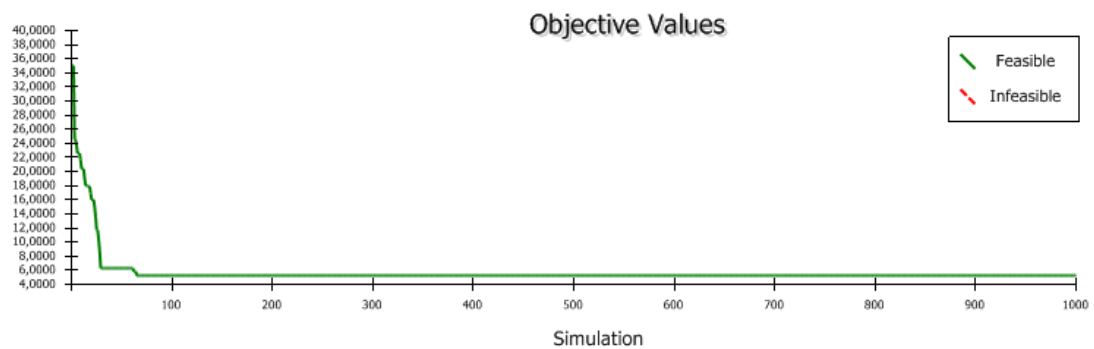
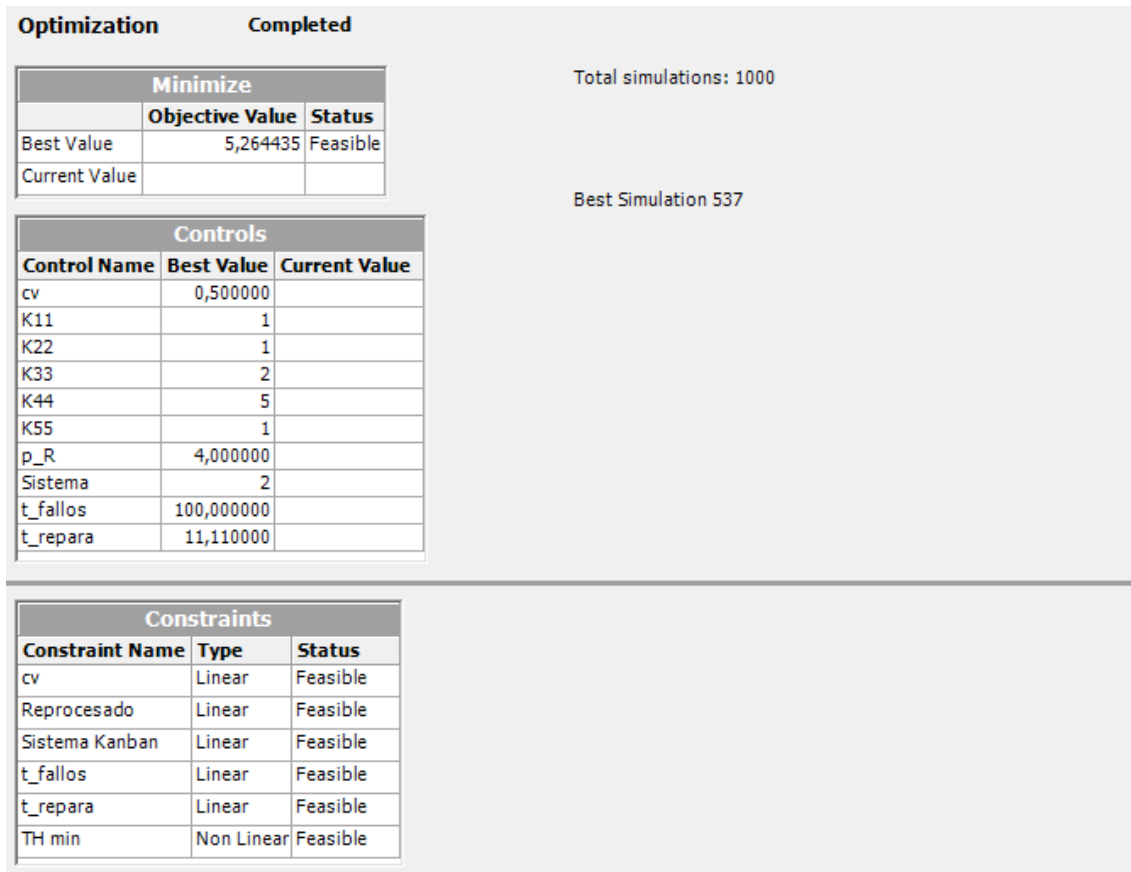


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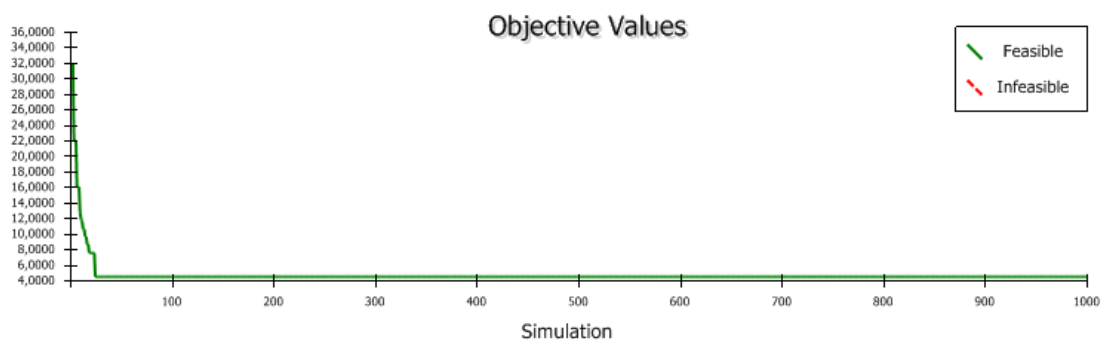
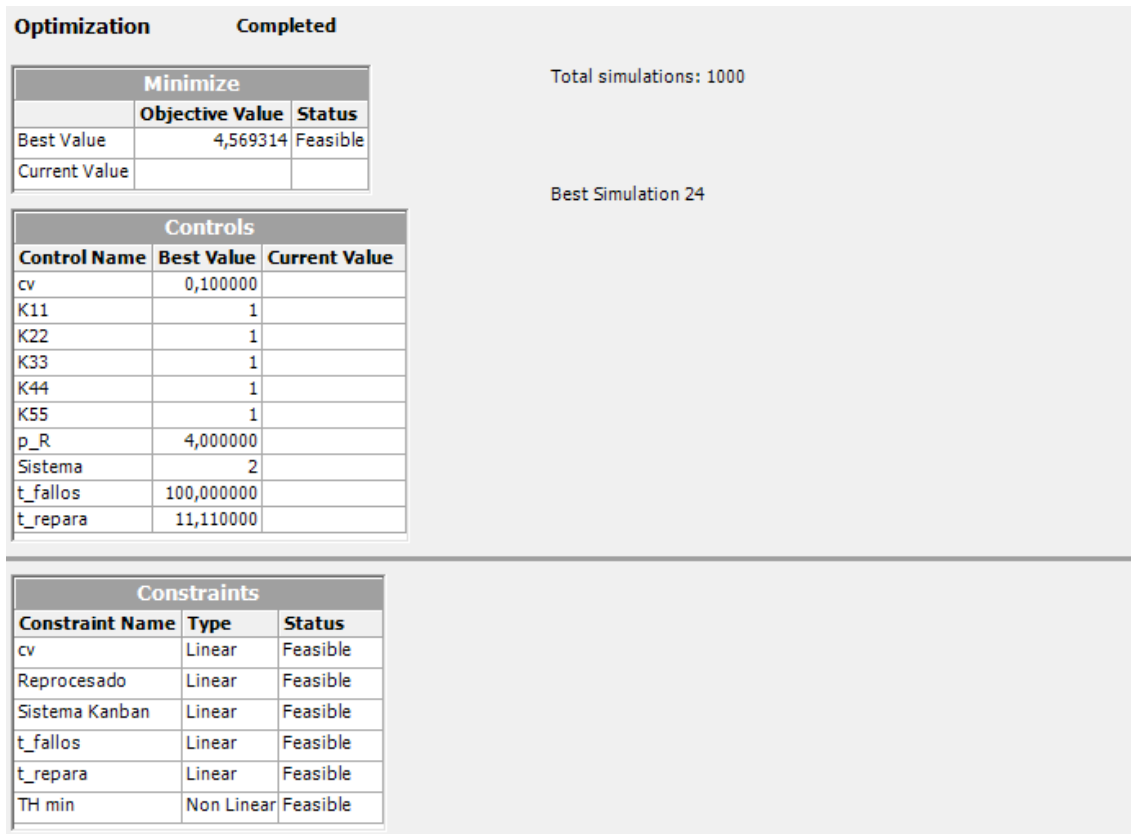


KANBAN PATRÓN DE AVERÍAS TIPO A; TH=70%; p_R=4%; cv=0.5



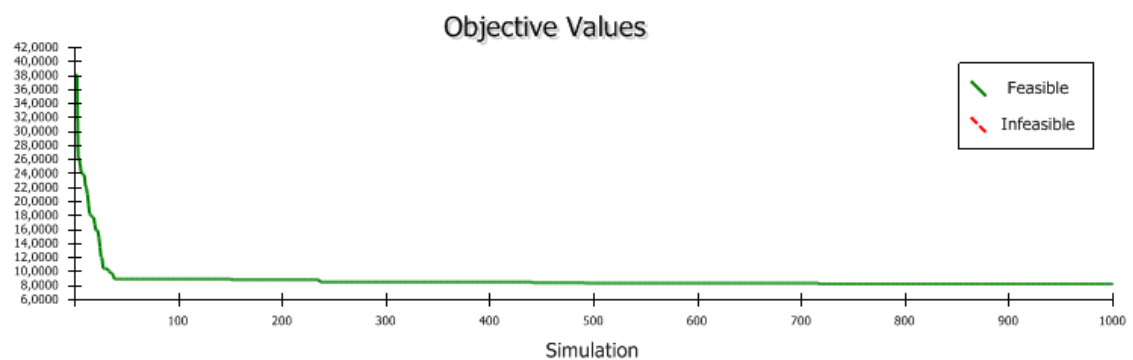
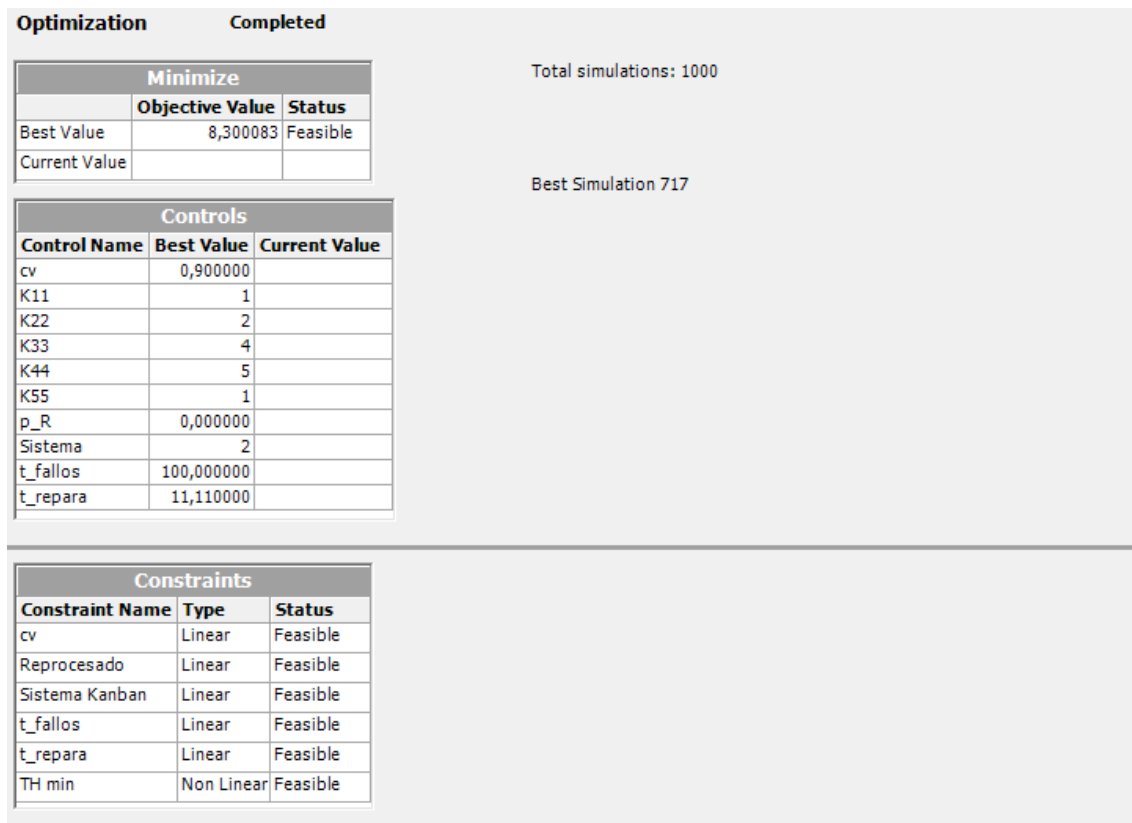


KANBAN PATRÓN DE AVERÍAS TIPO A; TH=70%; p_R=4%; cv=0.1



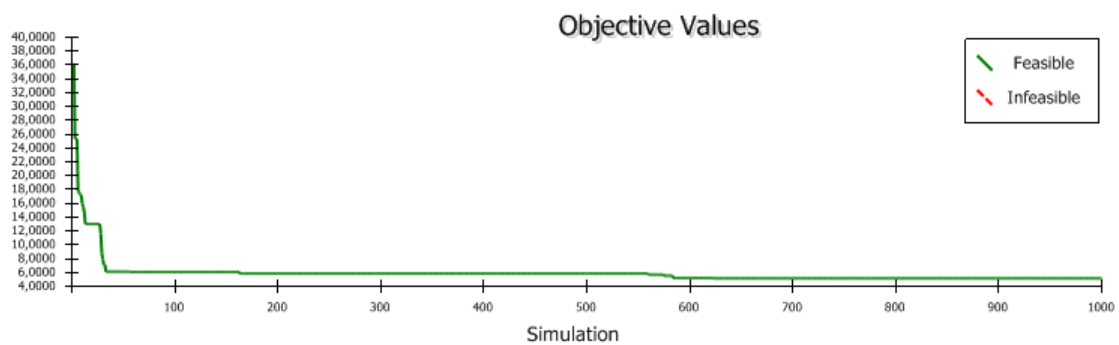
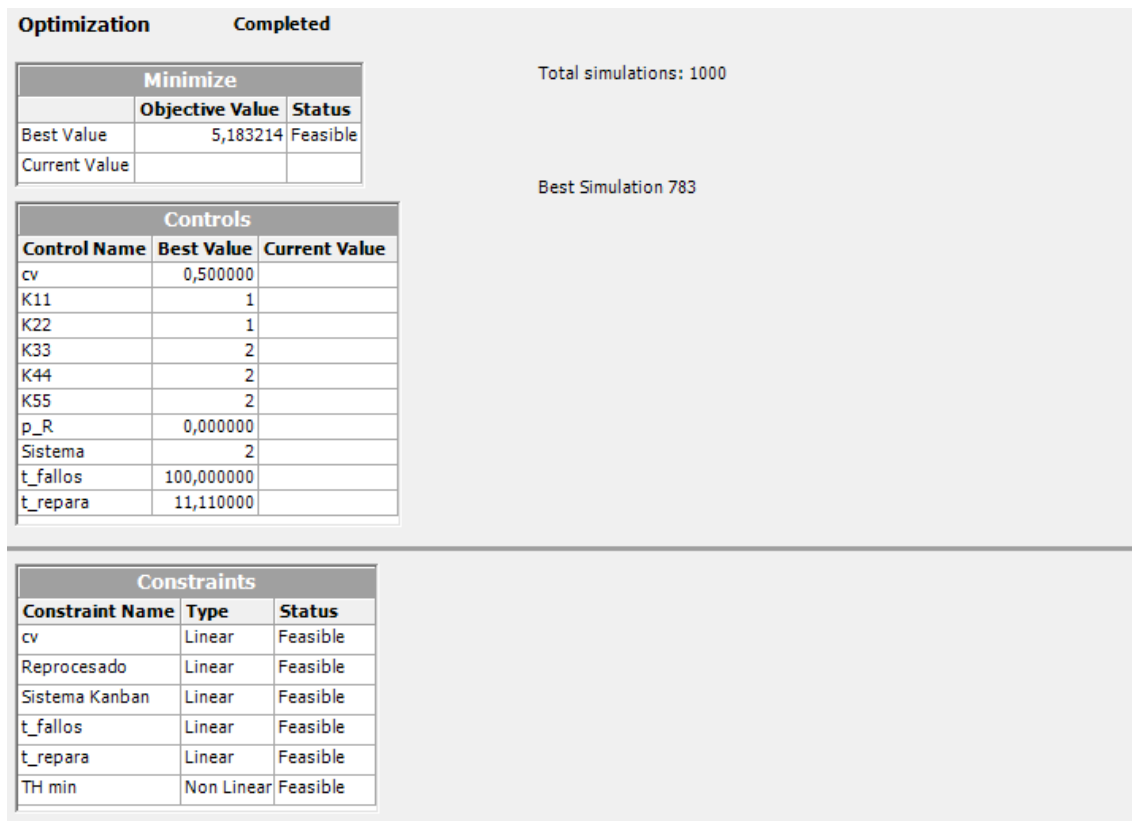


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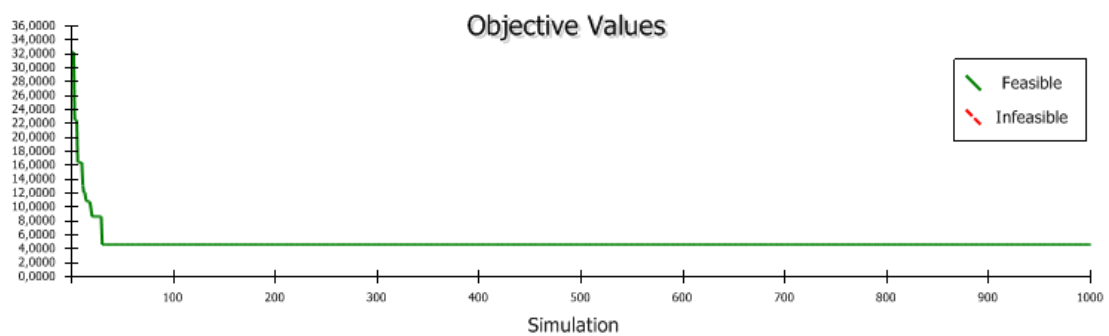
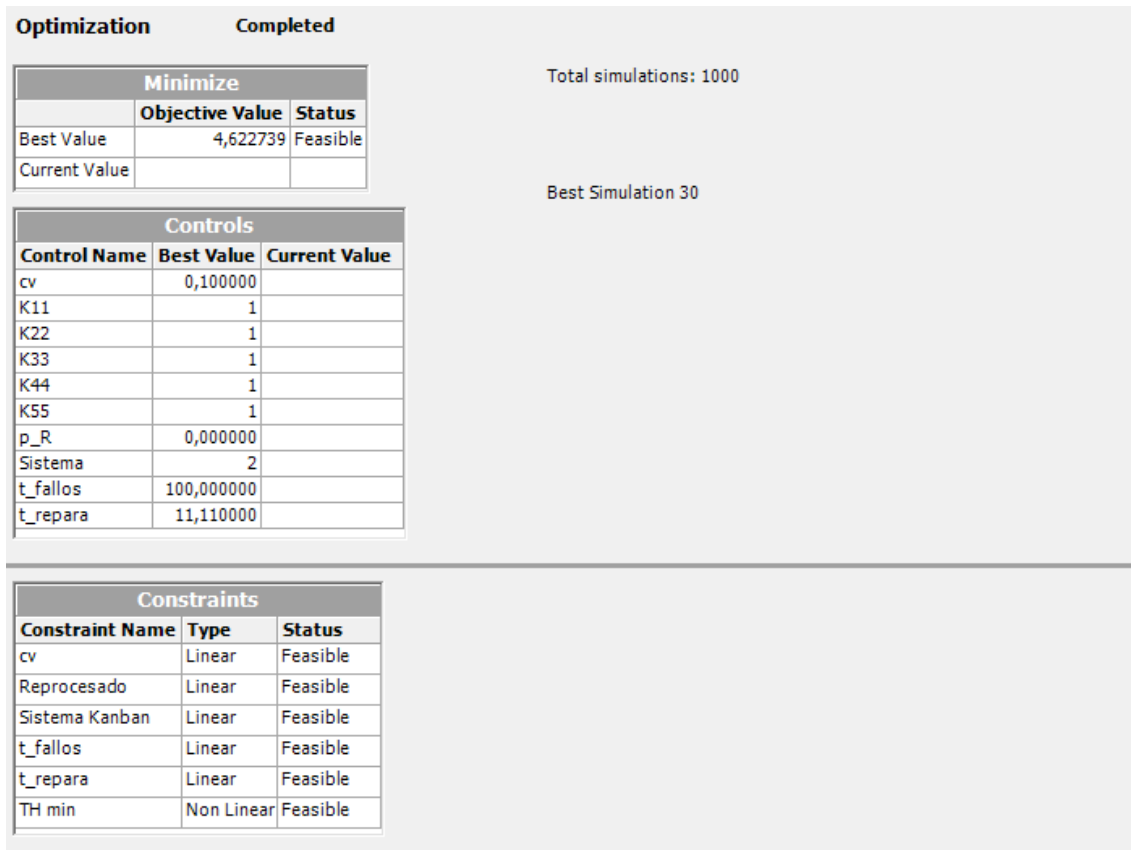


KANBAN PATRÓN DE AVERÍAS TIPO A; TH=70%; p_R=0%; cv=0.5



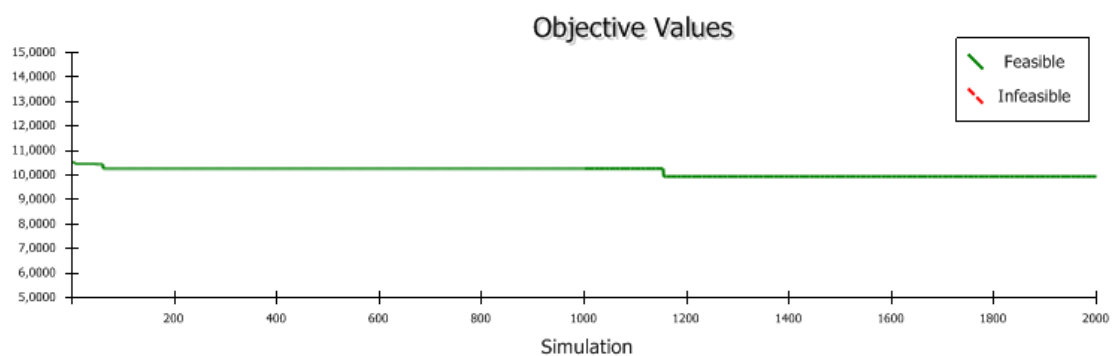
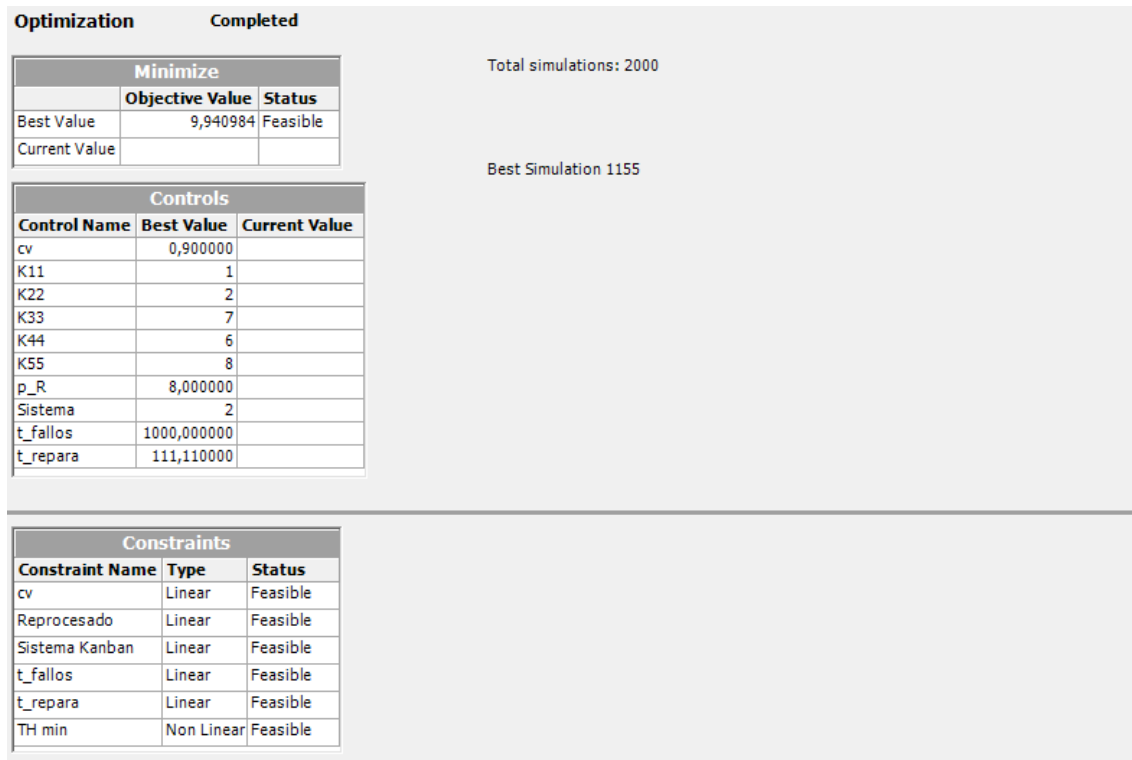


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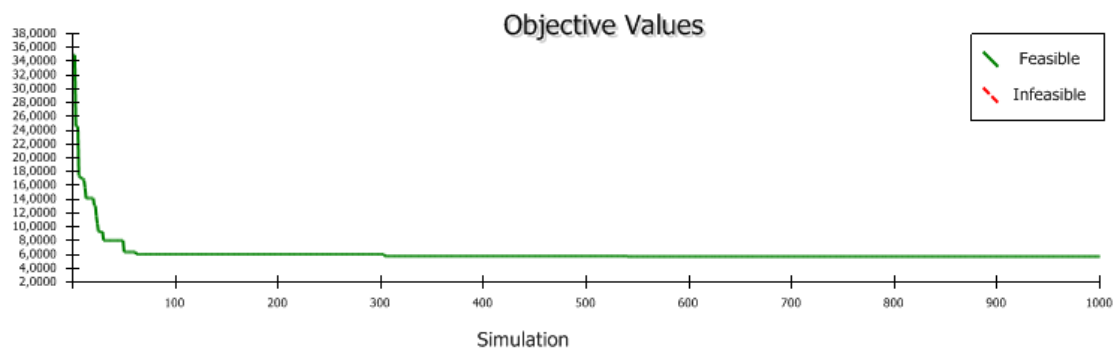
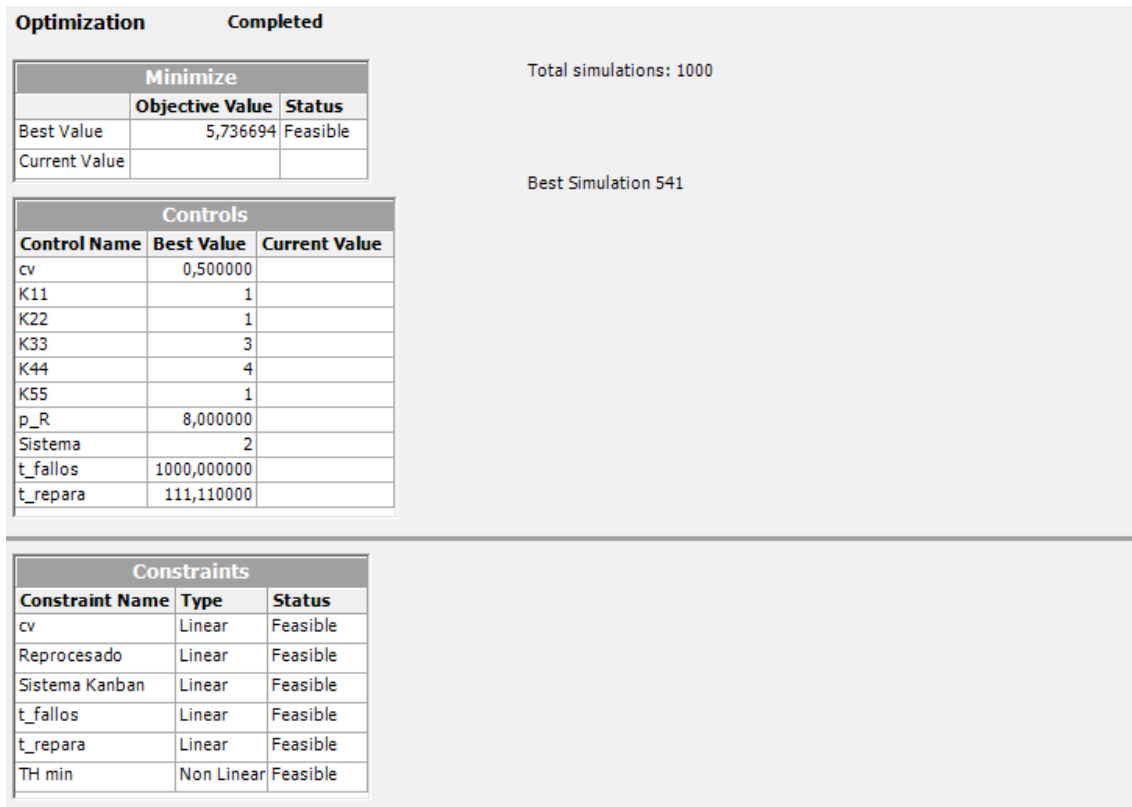


KANBAN PATRÓN DE AVERÍAS TIPO B; TH=70%; p_R=8%; cv=0.9



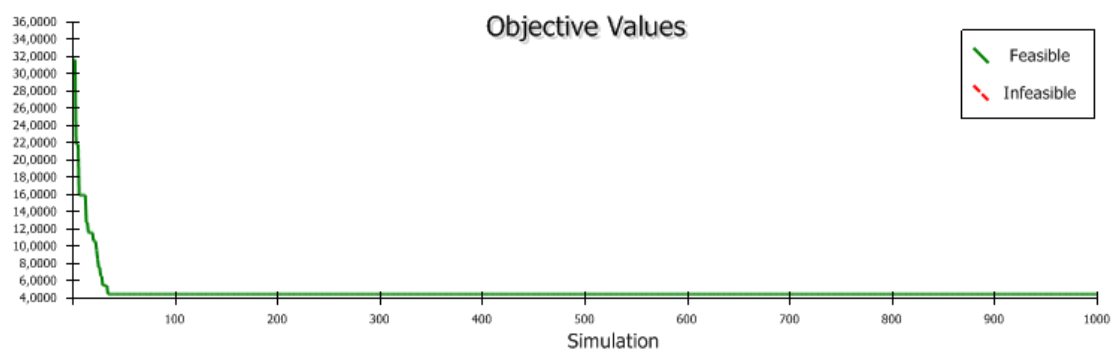
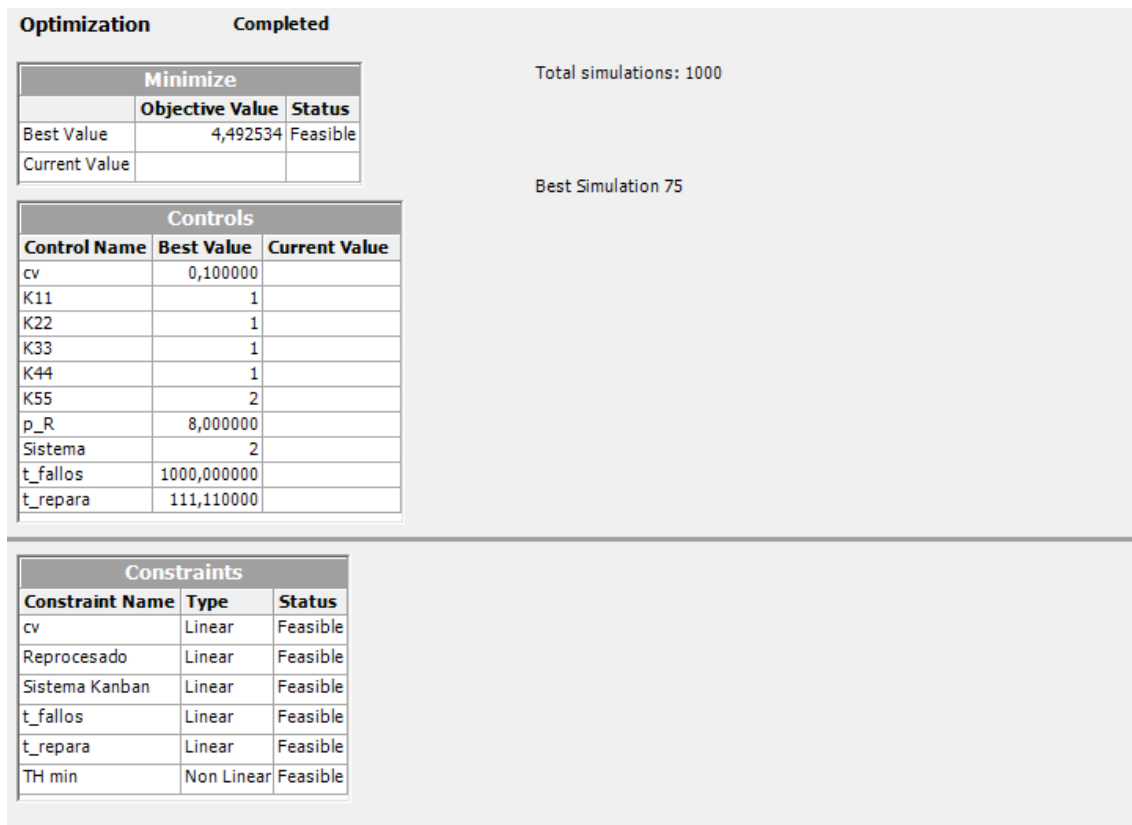


KANBAN PATRÓN DE AVERÍAS TIPO B; TH=70%; p_R=8%; cv=0.5



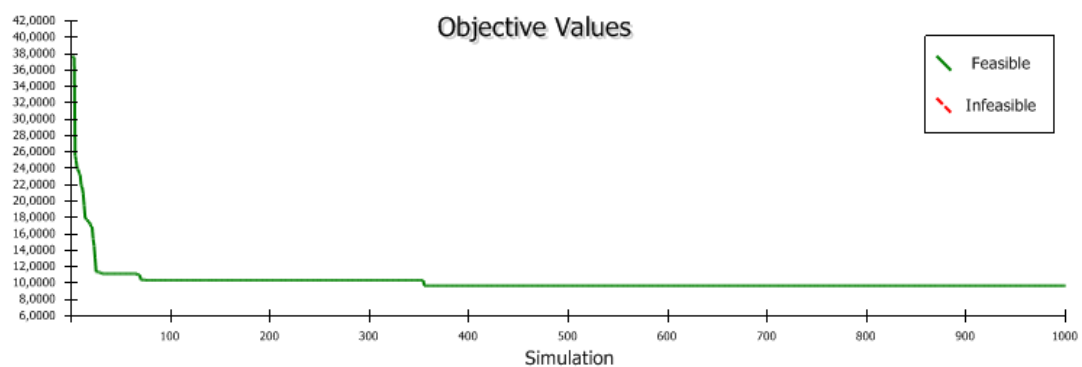
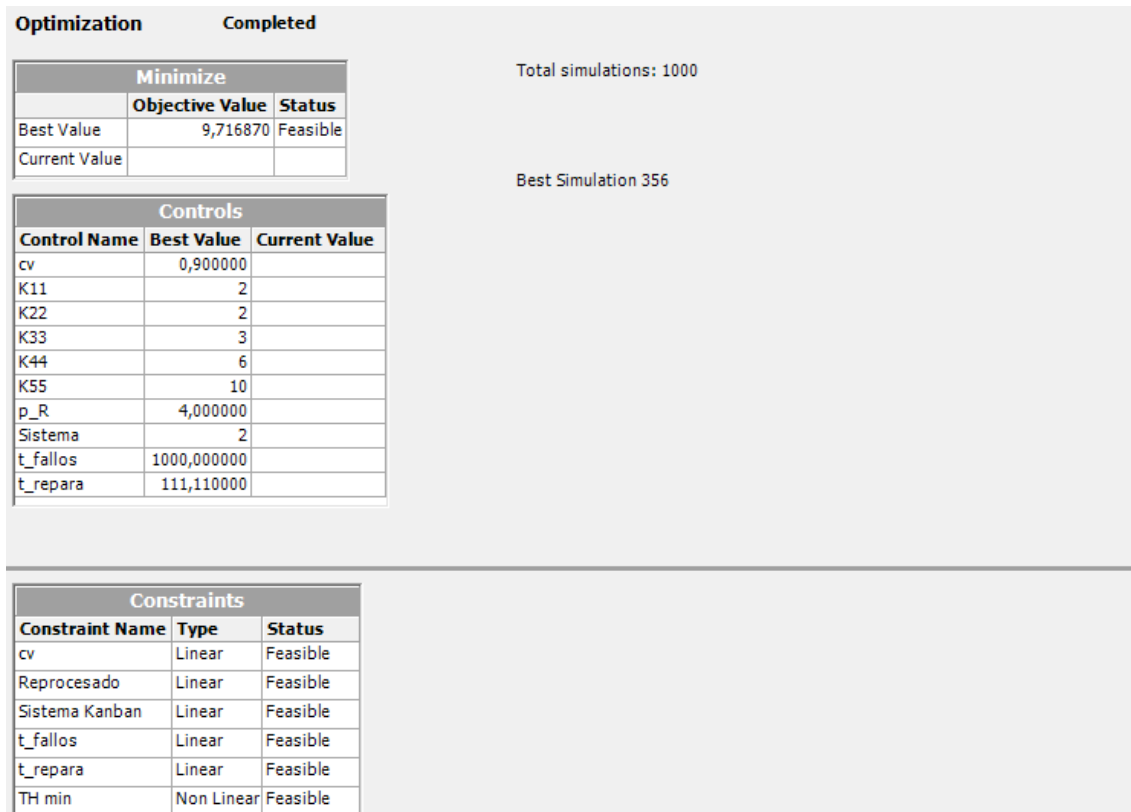


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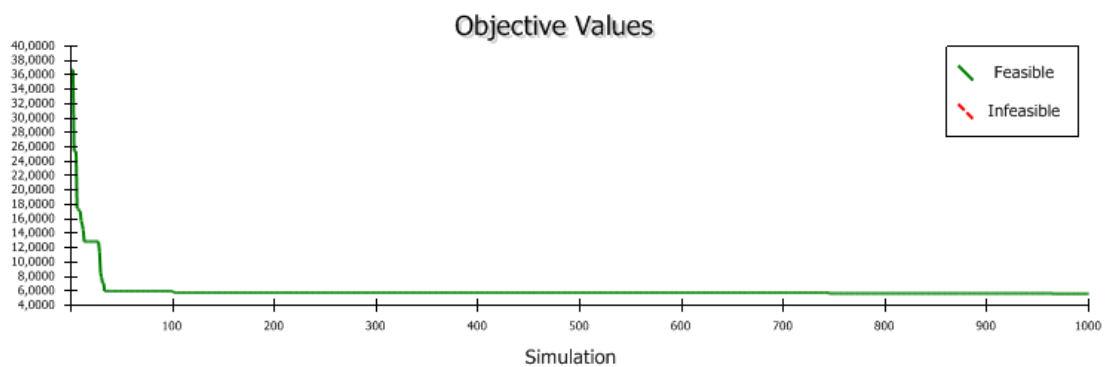
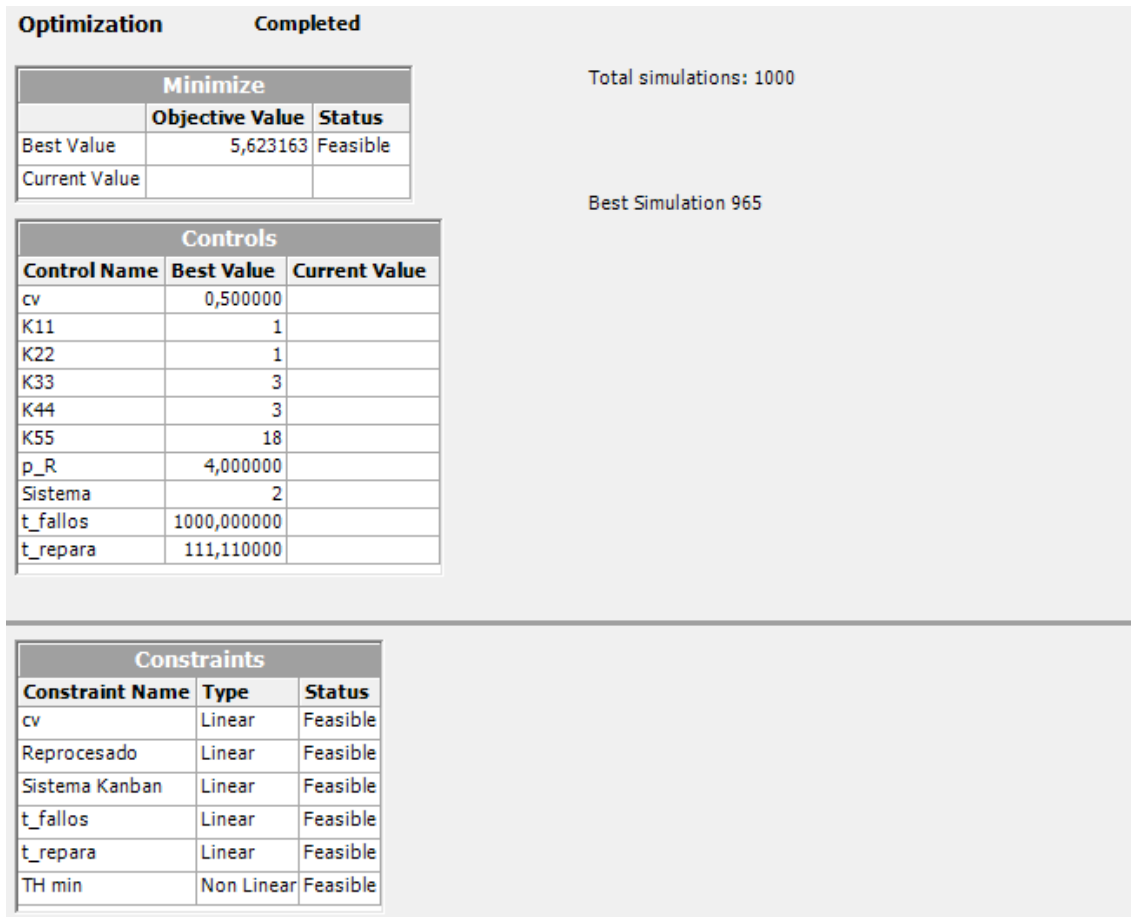


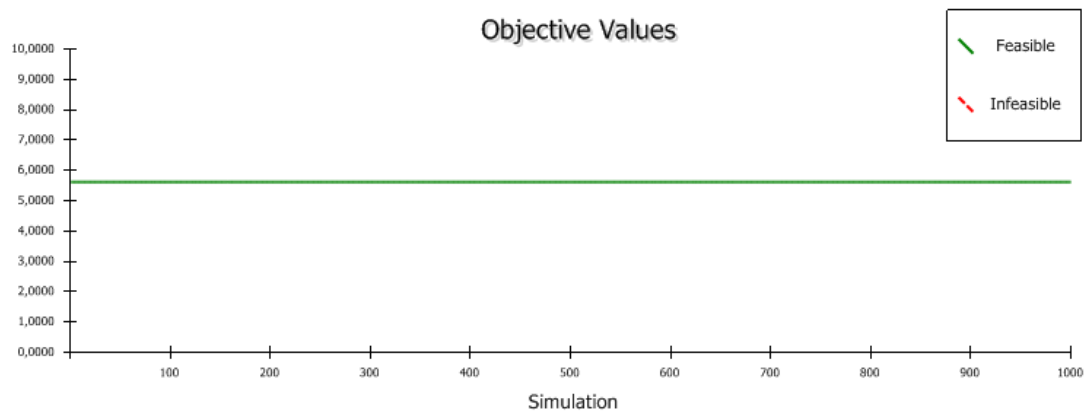
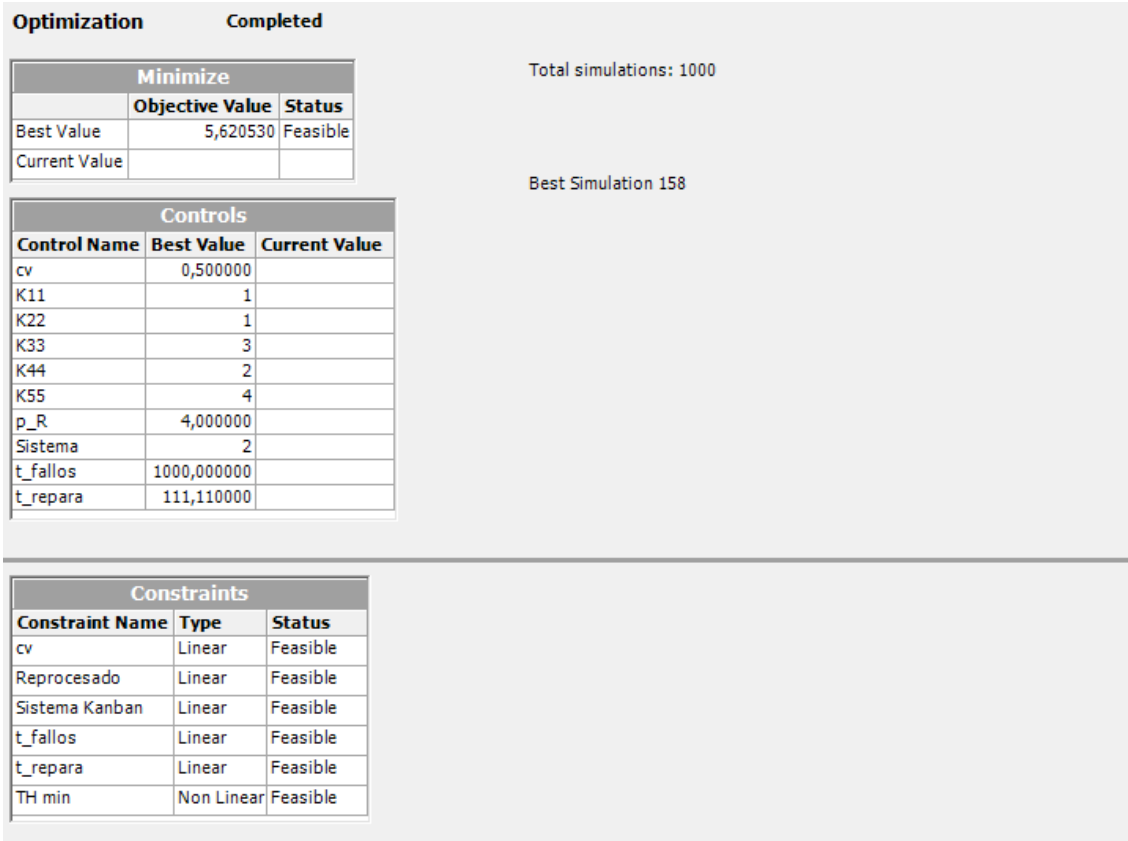
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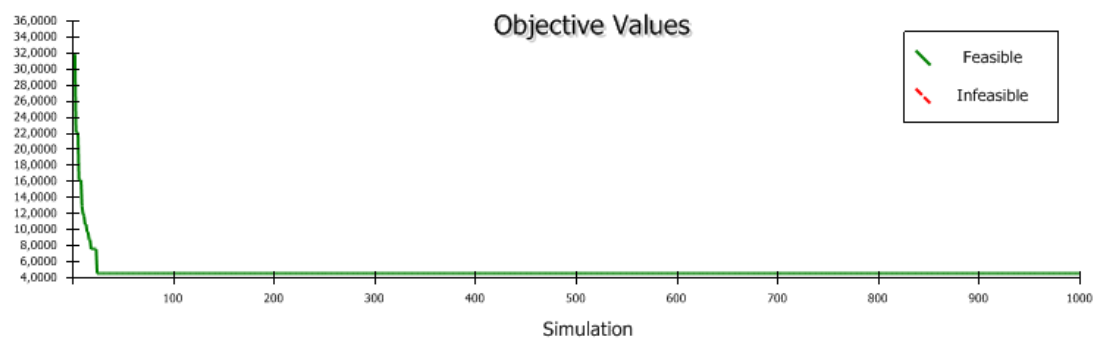
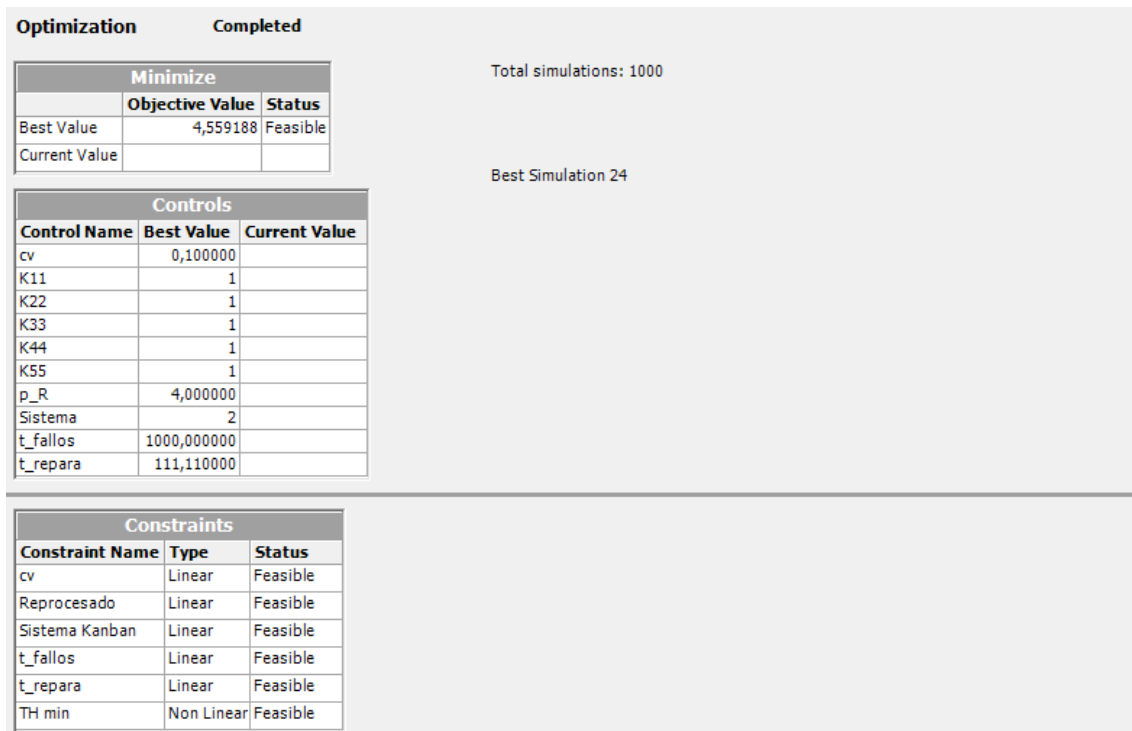
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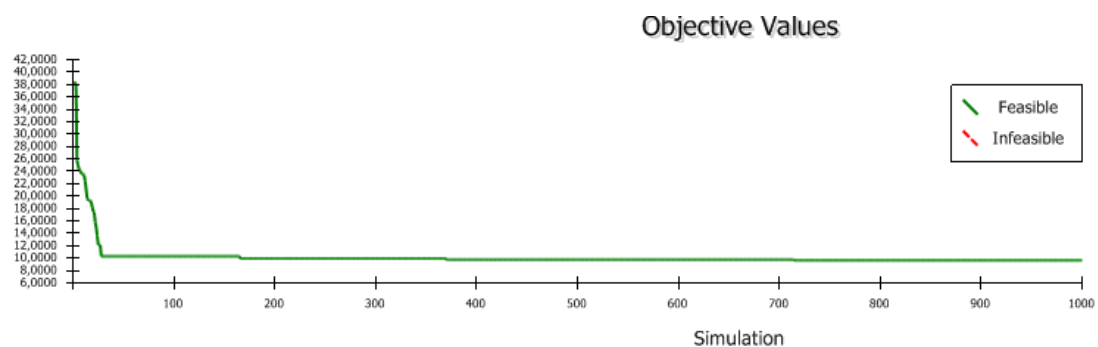
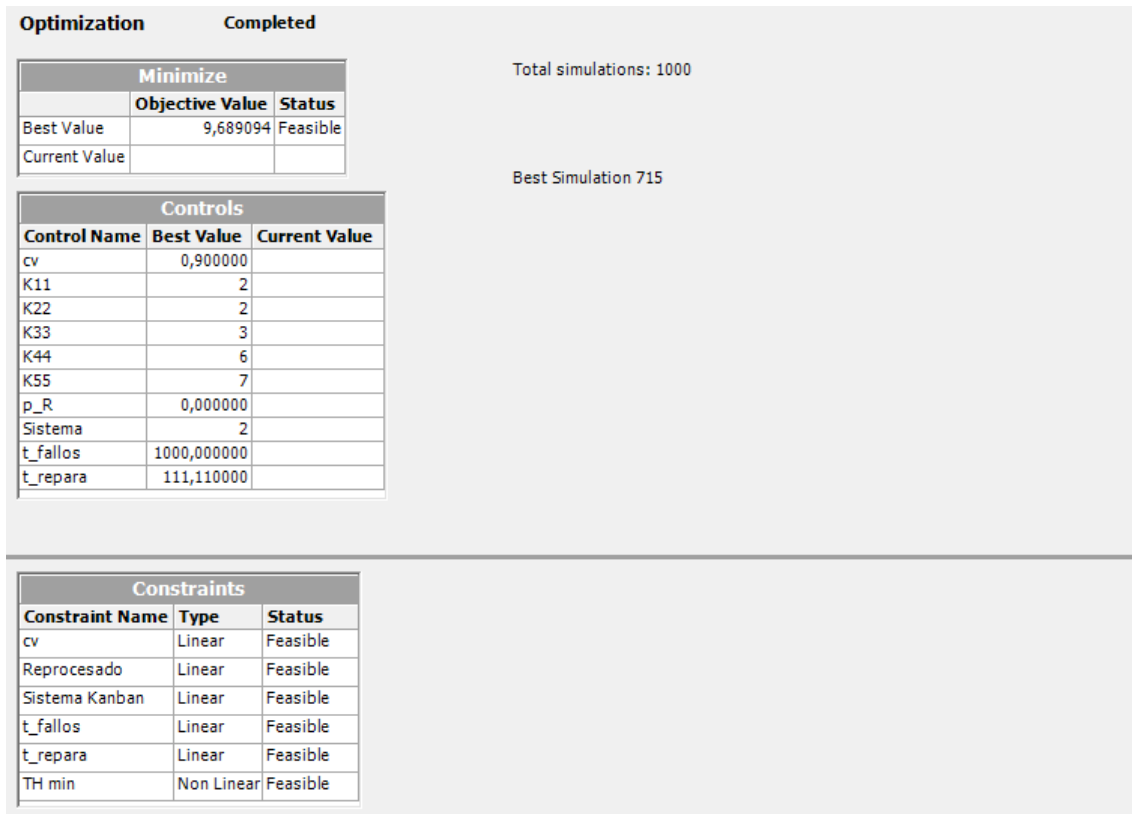


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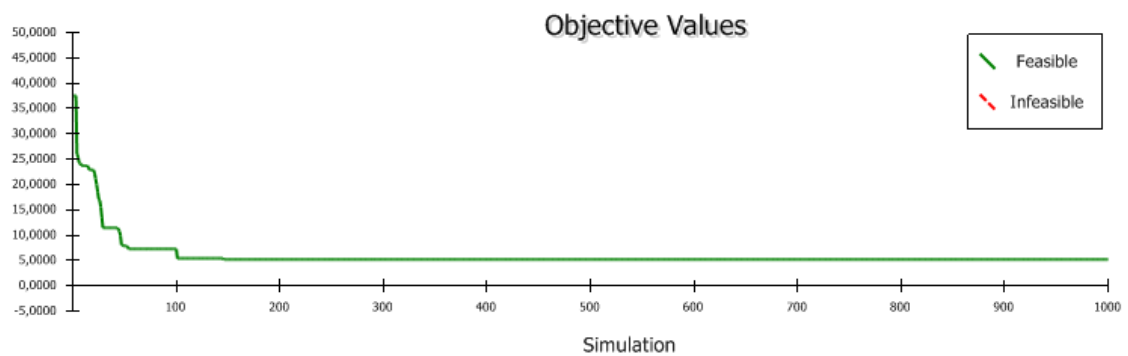
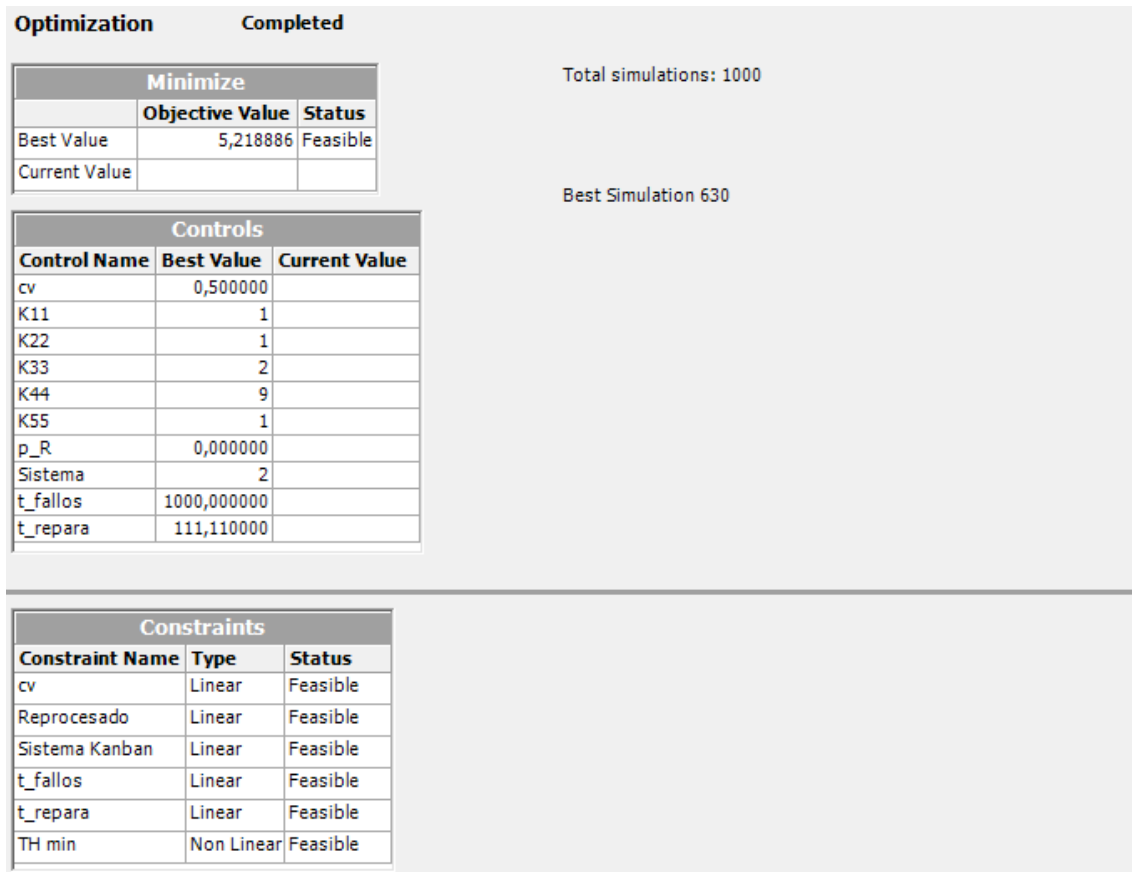


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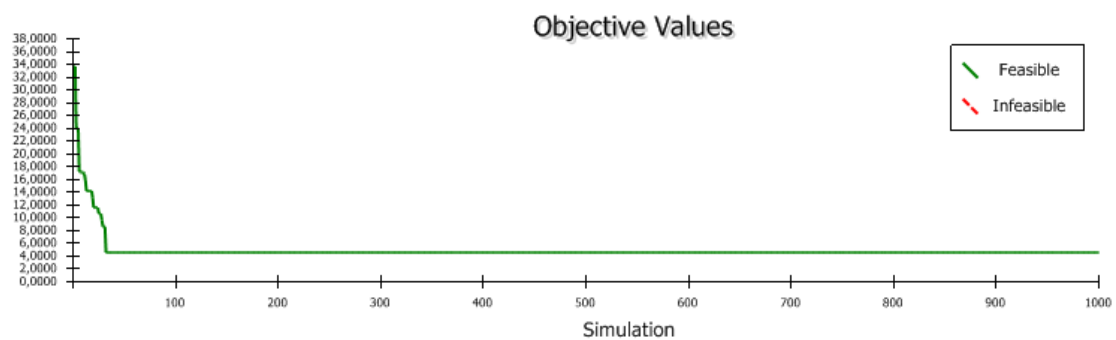
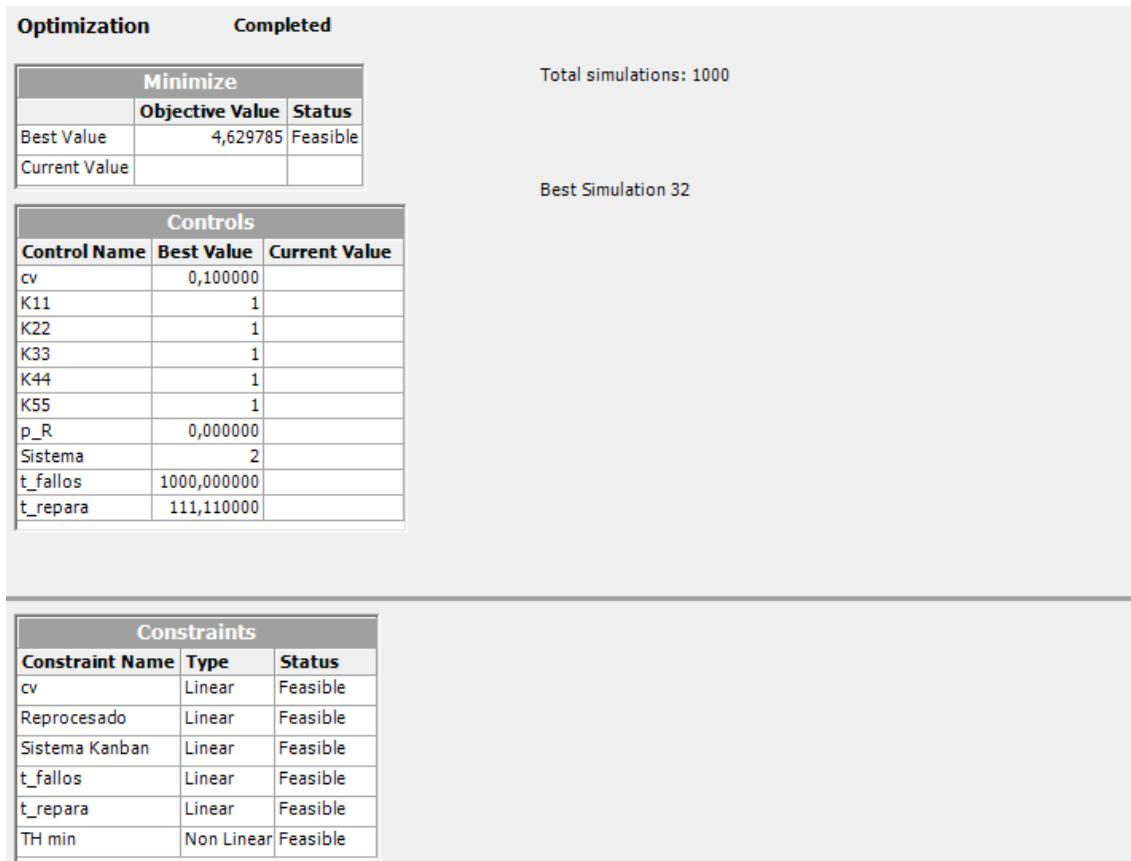


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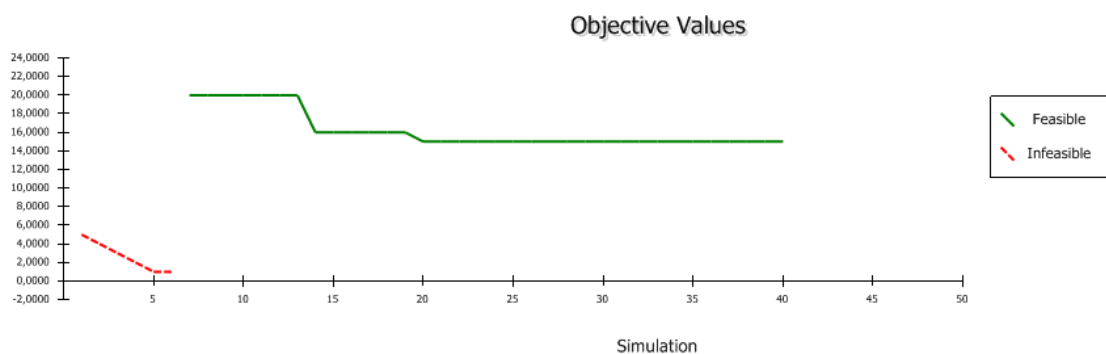
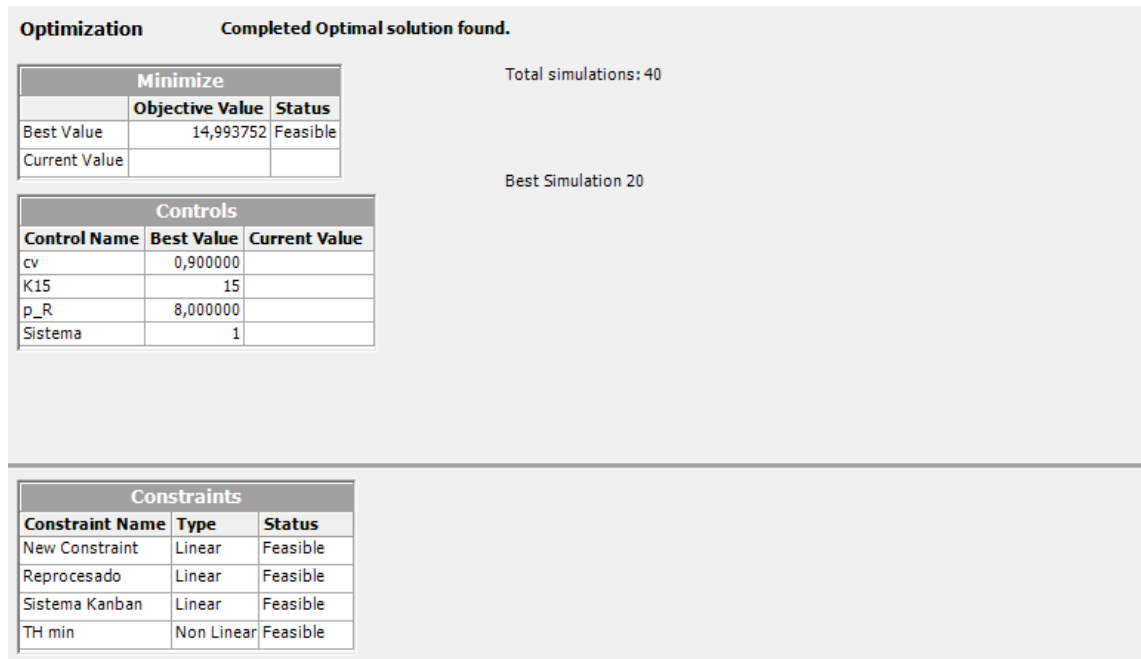
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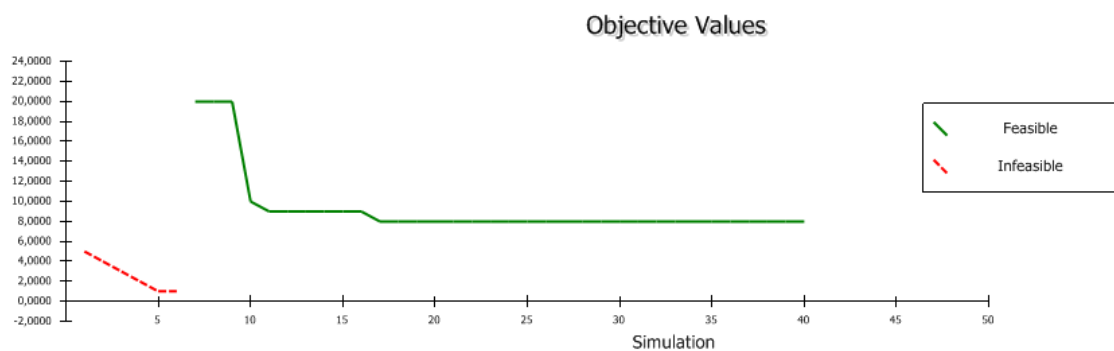
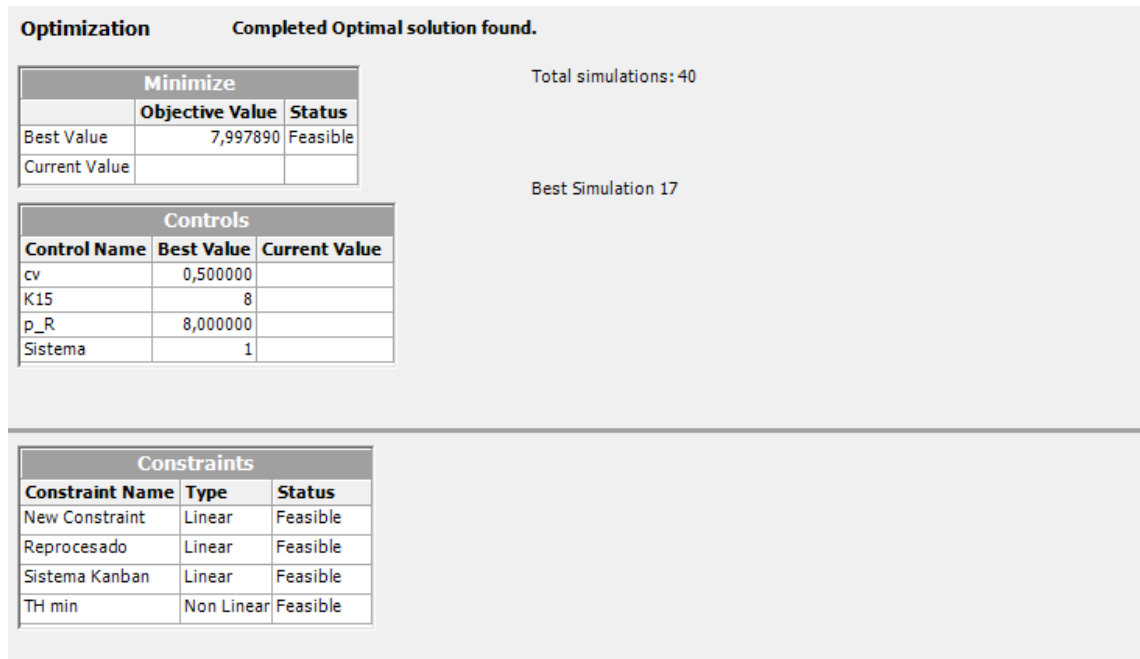
C. CONWIP TH=80%

CONWIP SIN FALLOS; TH=80%; p_R=8%; cv=0.9





CONWIP SIN FALLOS; TH=80%; p_R=8%; cv=0.5





CONWIP SIN FALLOS; TH=80%; p_R=8%; cv=0.1

Optimization **Completed Optimal solution found.**

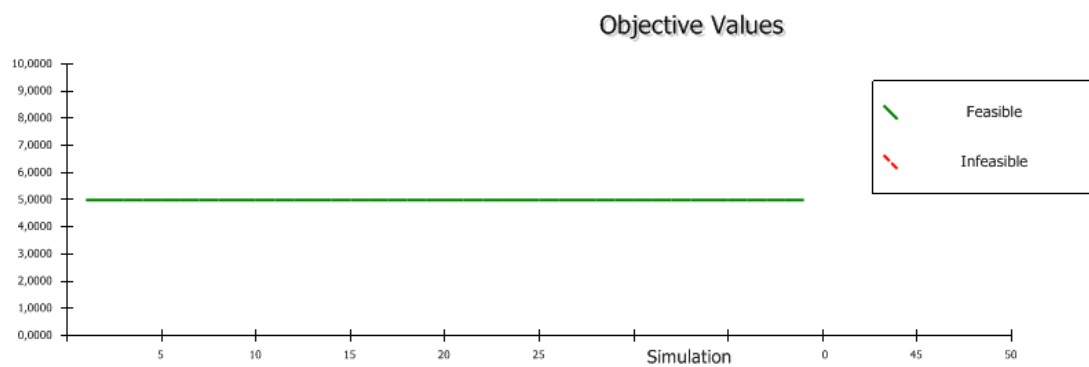
Total simulations: 39

Best Simulation 1

Minimize		
	Objective Value	Status
Best Value	4,999056	Feasible
Current Value		

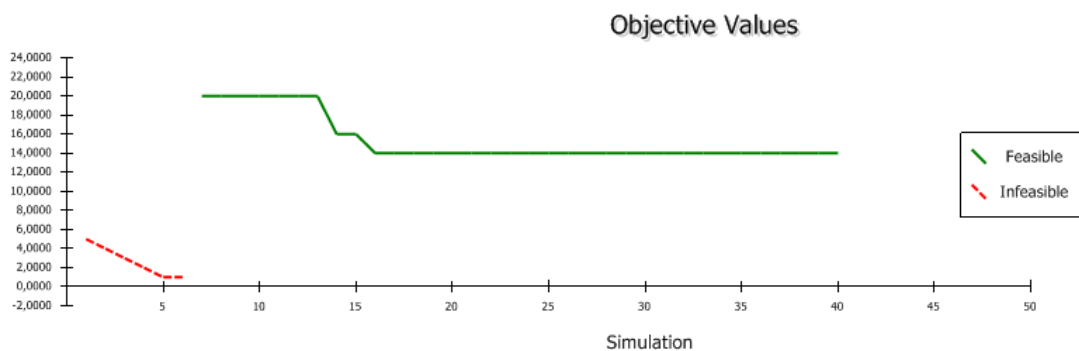
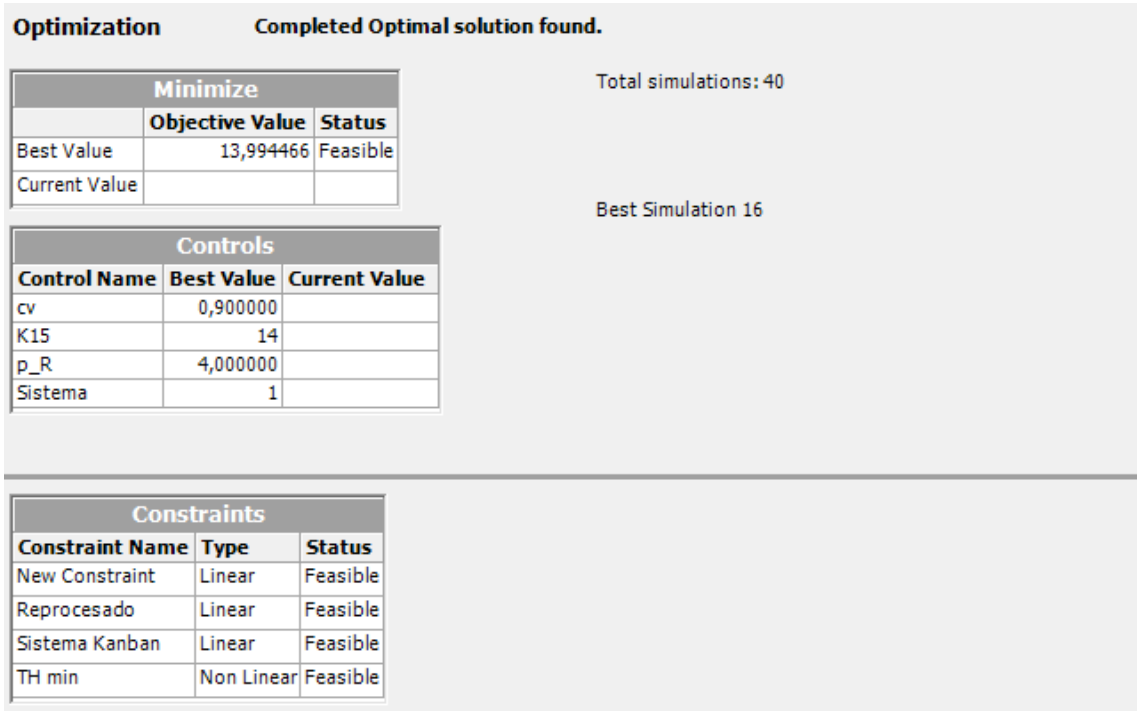
Controls		
Control Name	Best Value	Current Value
cv	0,100000	
K15	5	
p_R	8,000000	
Sistema	1	

Constraints		
Constraint Name	Type	Status
New Constraint	Linear	Feasible
Reprocesado	Linear	Feasible
Sistema Kanban	Linear	Feasible
TH min	Non Linear	Feasible



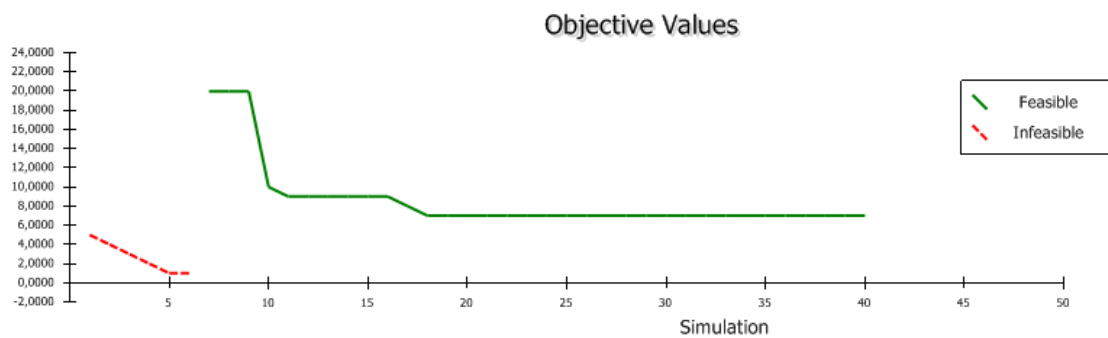
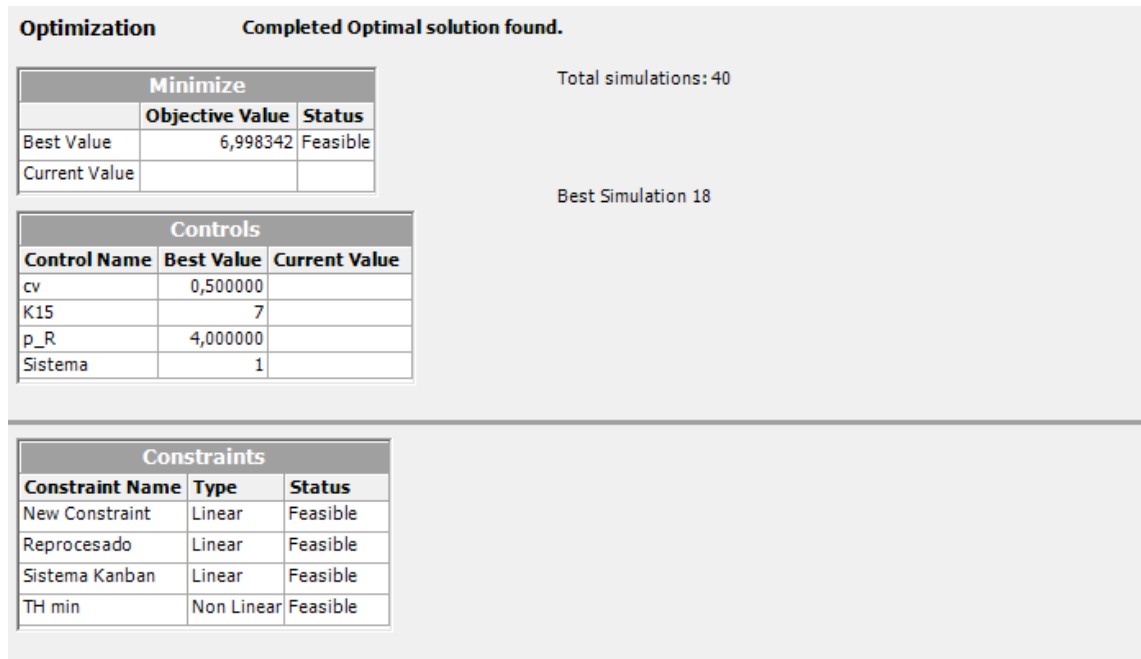


CONWIP SIN FALLOS; TH=80%; p_R=4%; cv=0.9



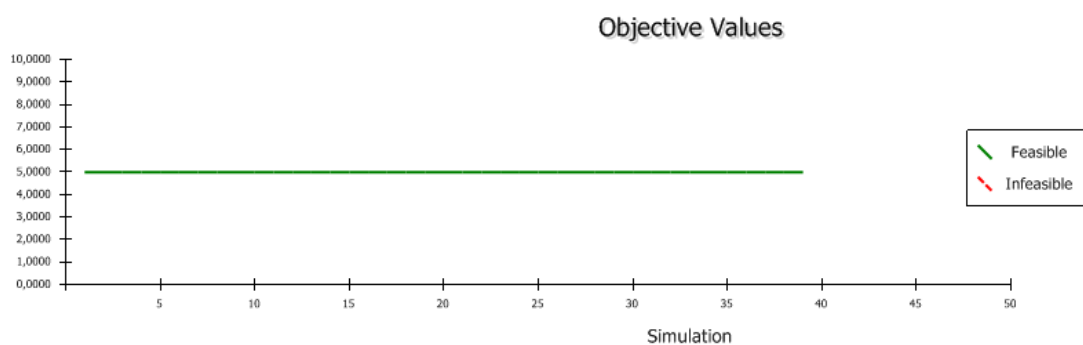
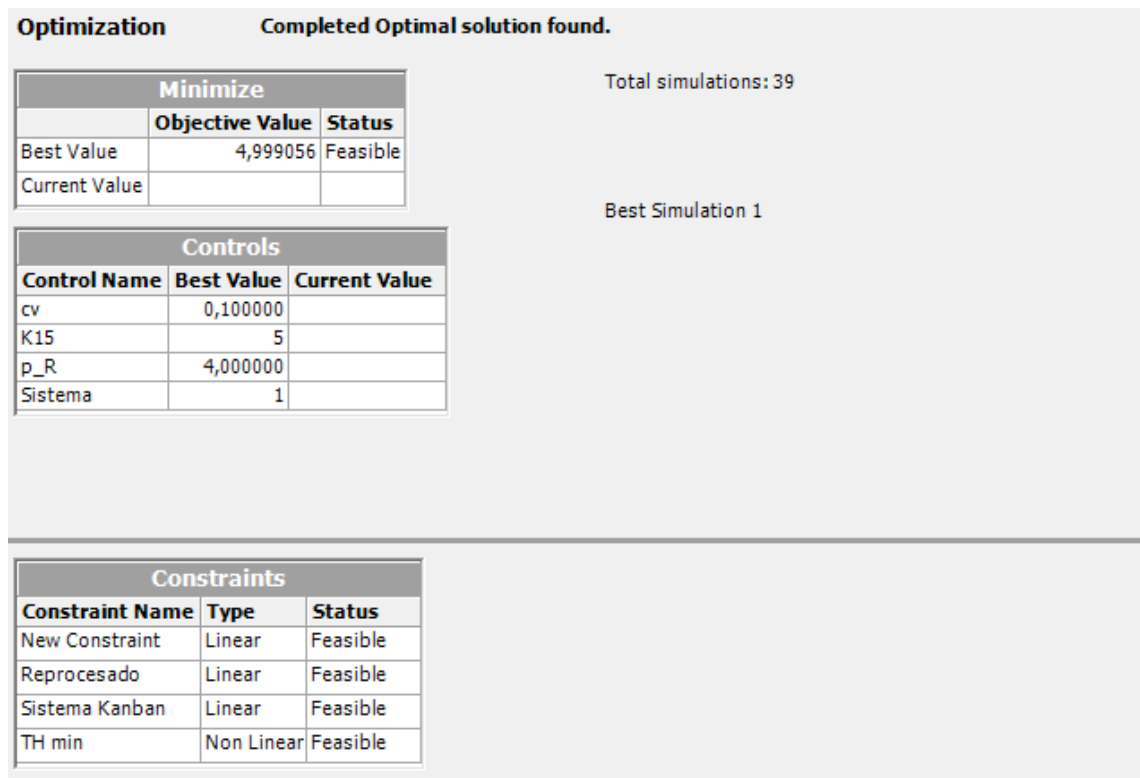


CONWIP SIN FALLOS; TH=80%; p_R=4%; cv=0.5



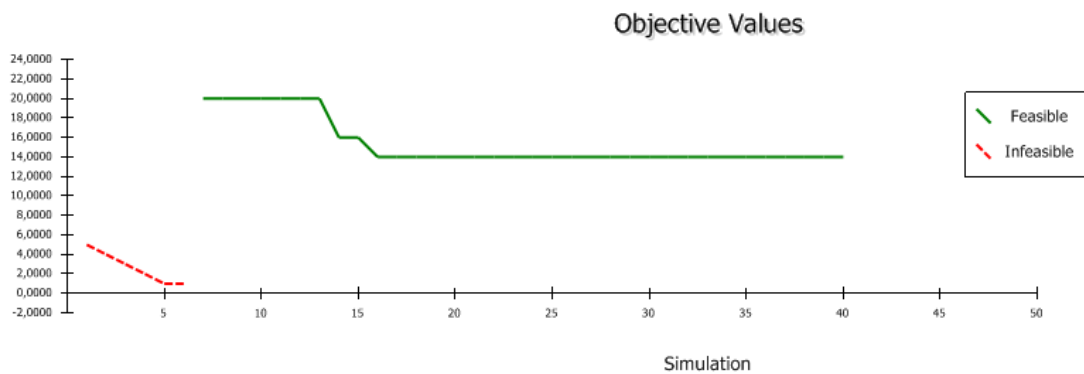
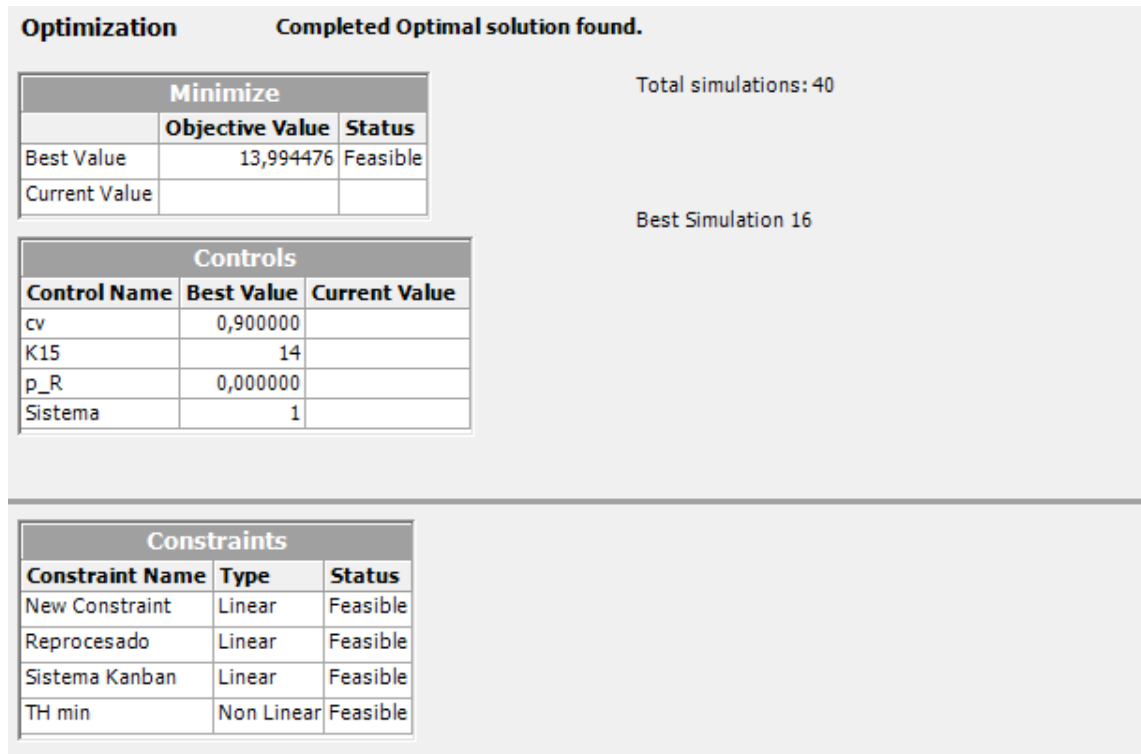


CONWIP SIN FALLOS; TH=80%; p_R=4%; cv=0.1



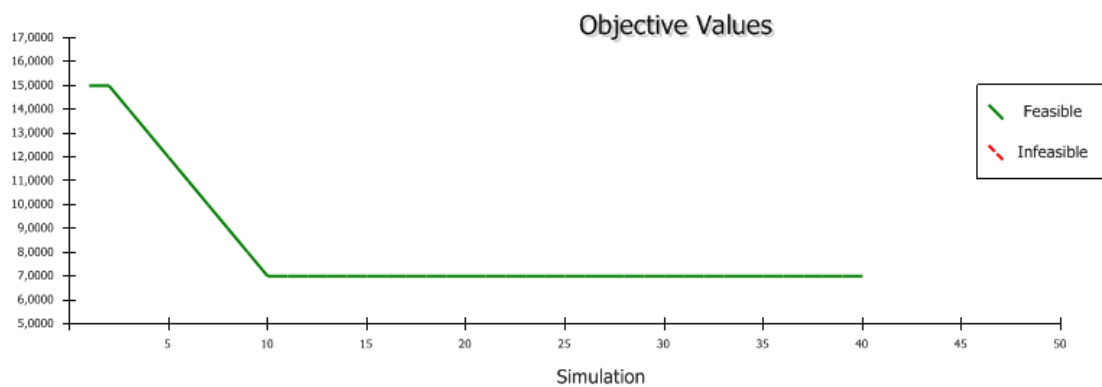
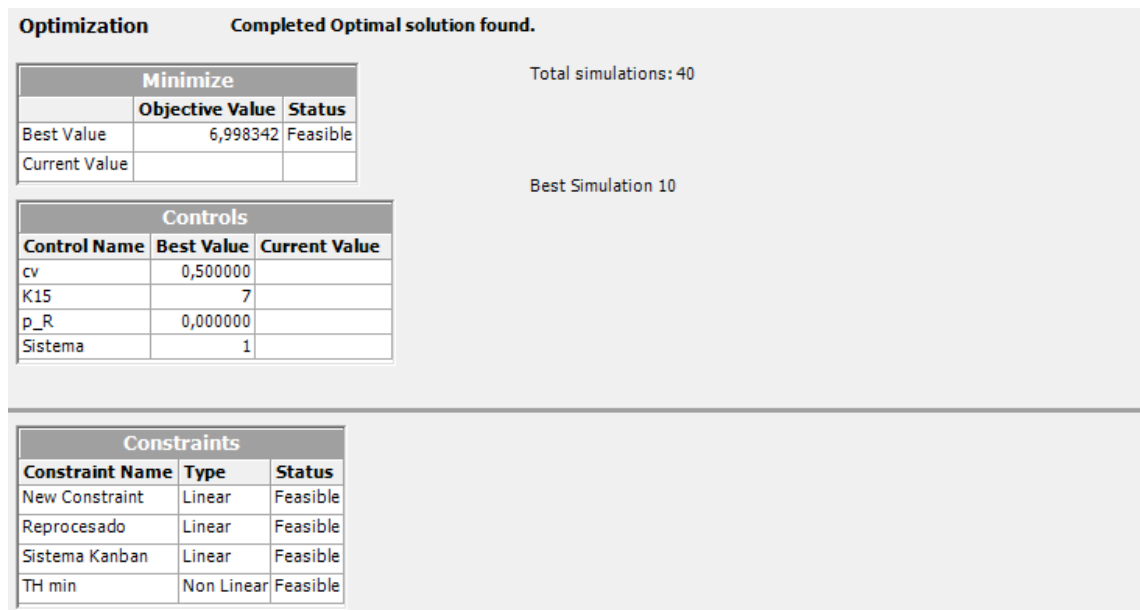


CONWIP SIN FALLOS; TH=80%; p_R=0%; cv=0.9



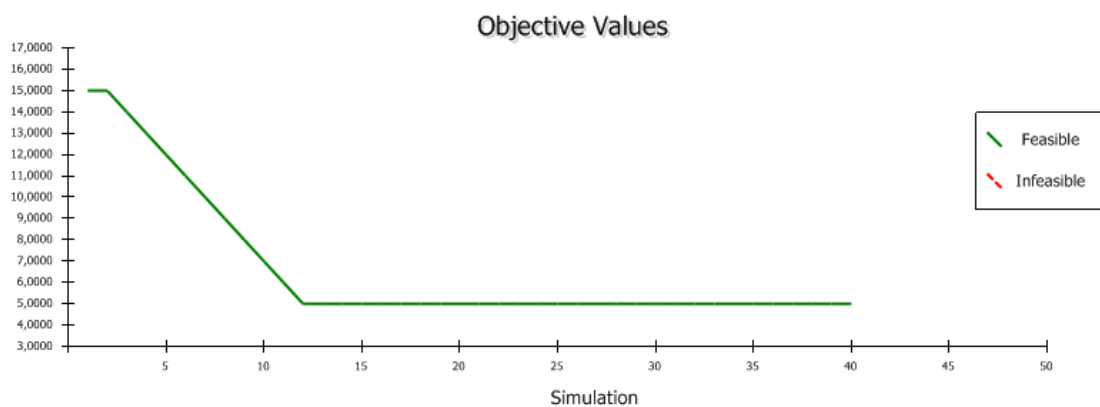
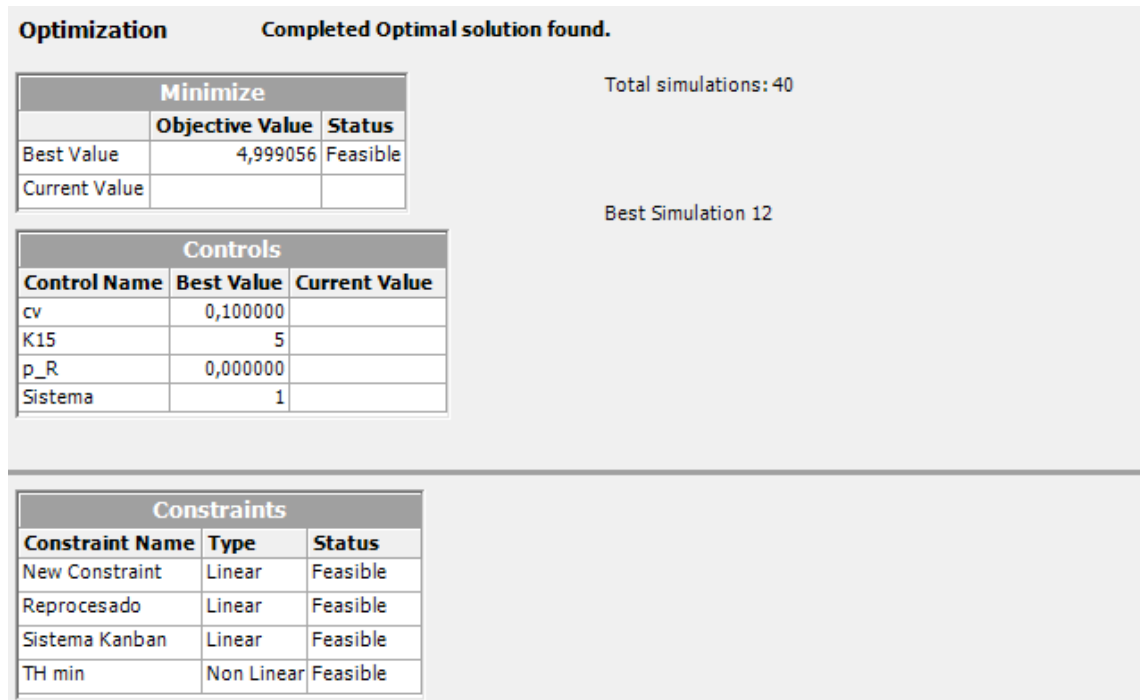


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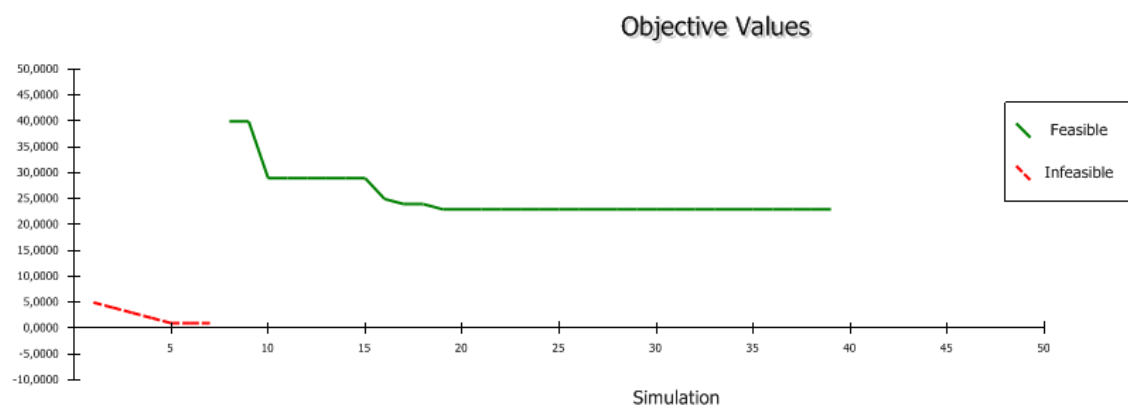
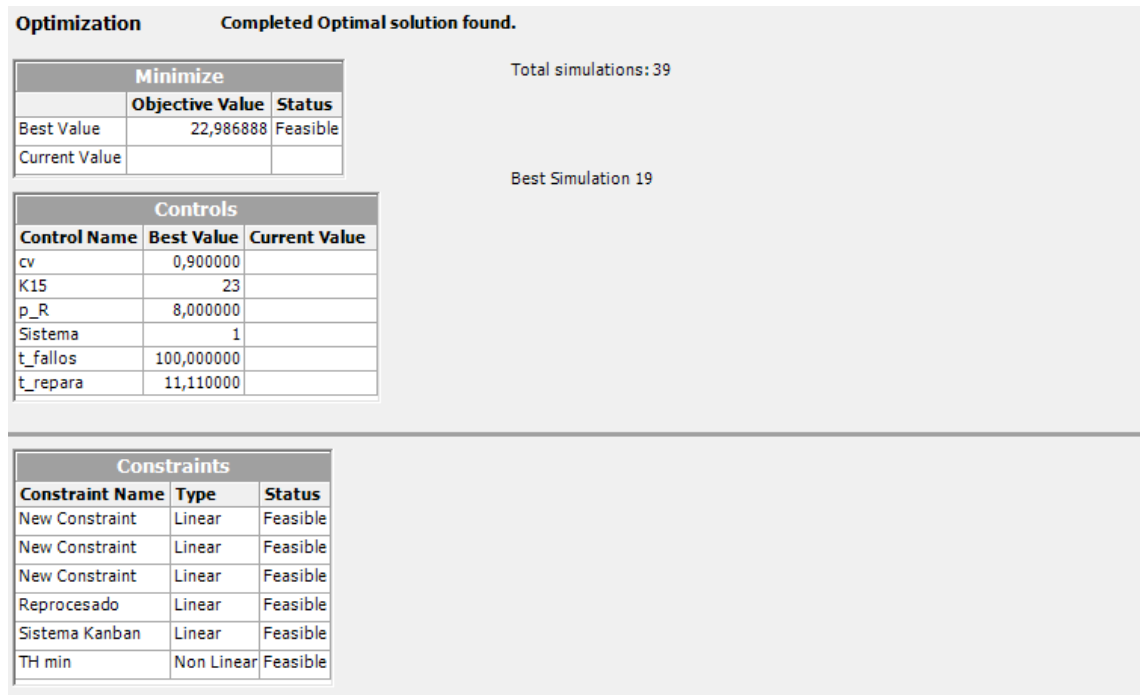


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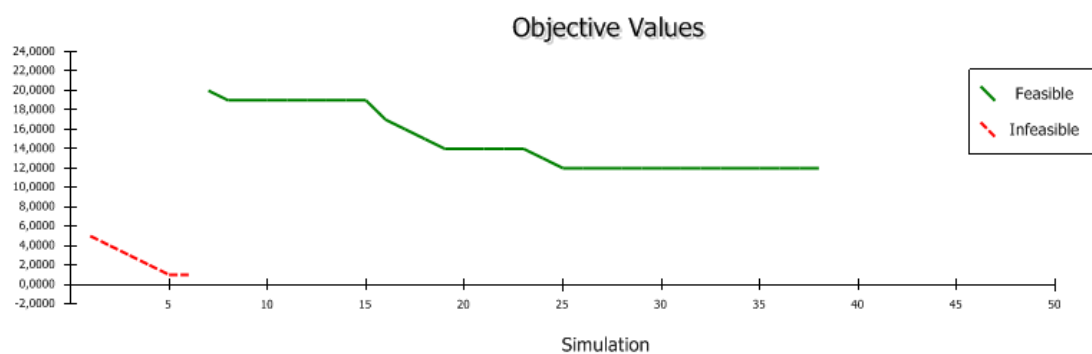
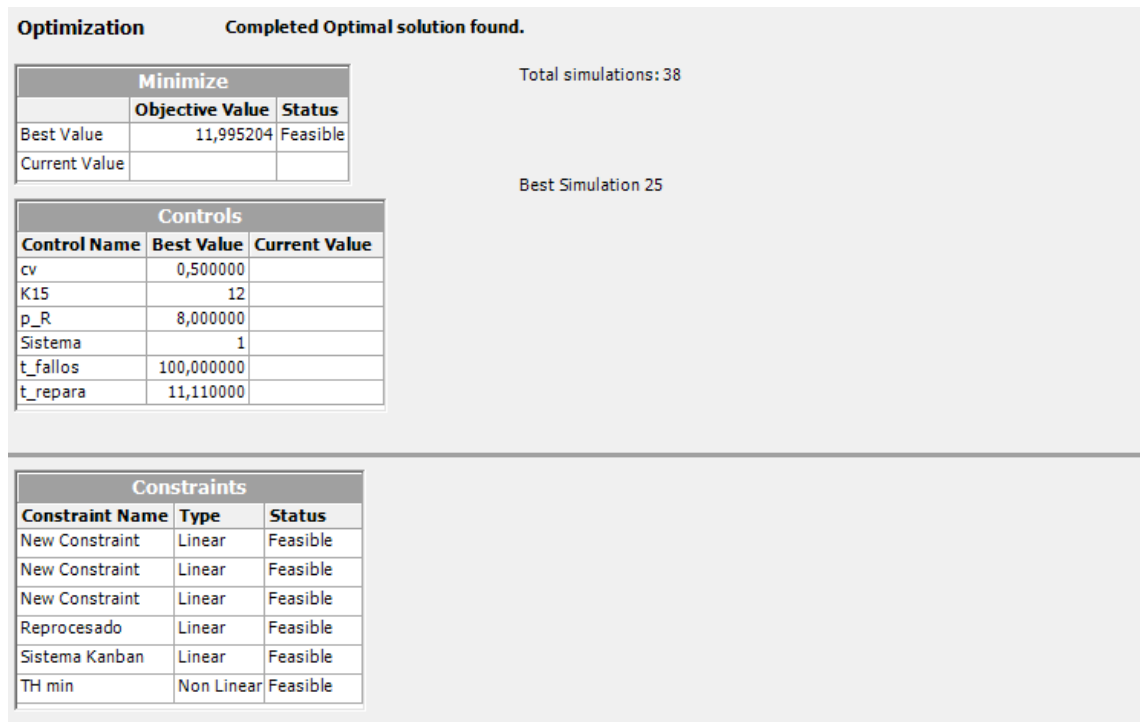


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=80%; p_R=8%; cv=0.9



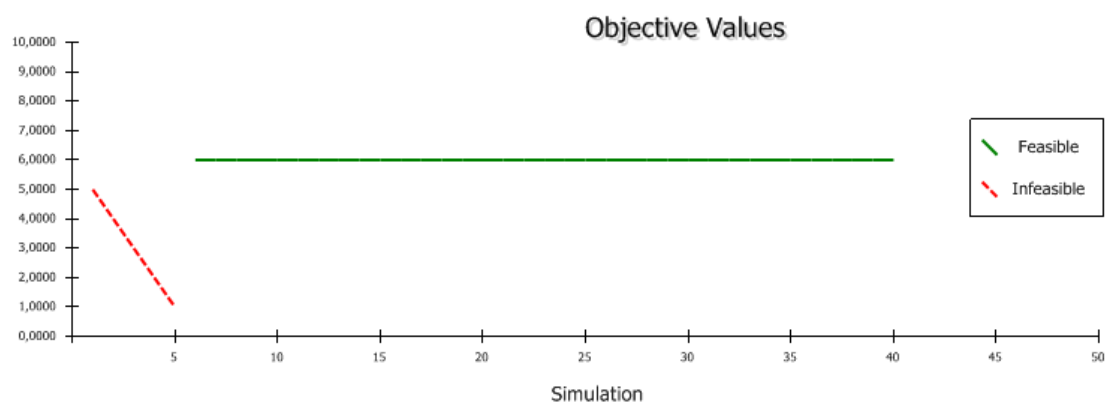
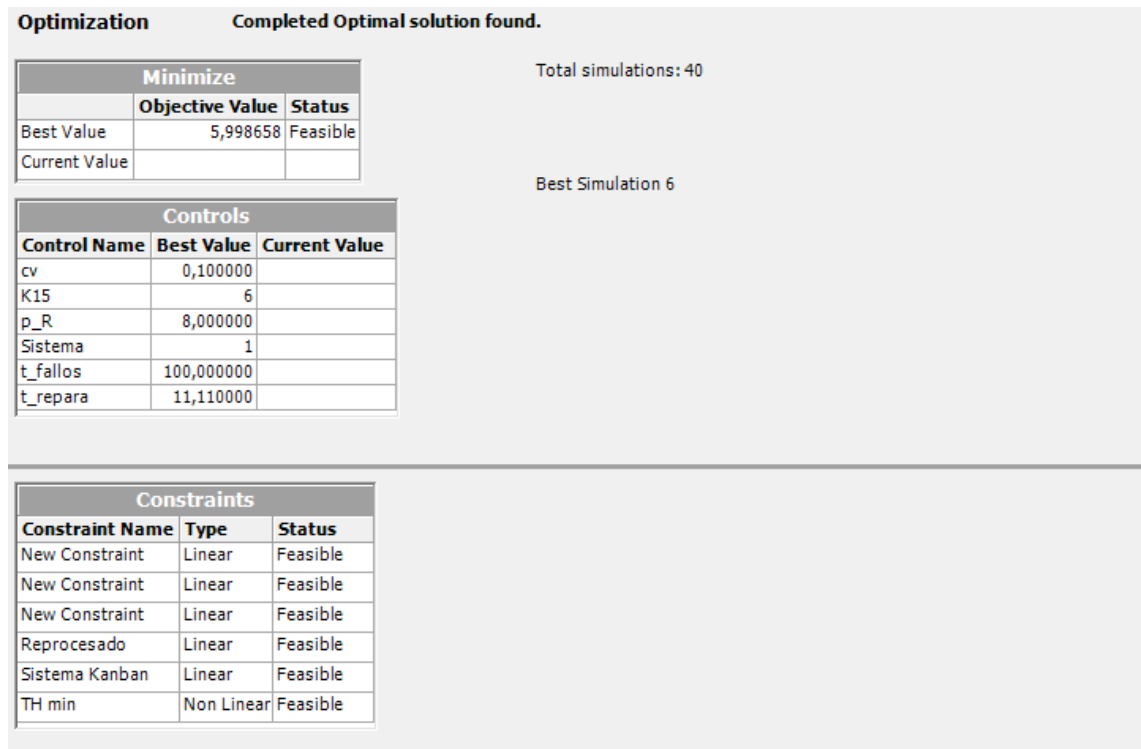


CONWIP PATRÓN DE AVERÍAS TIPO A; TH=80%; p_R=8%; cv=0.5



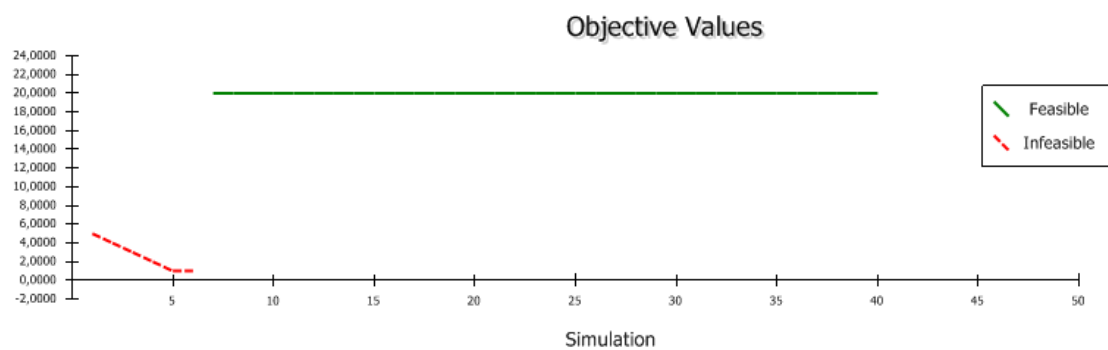
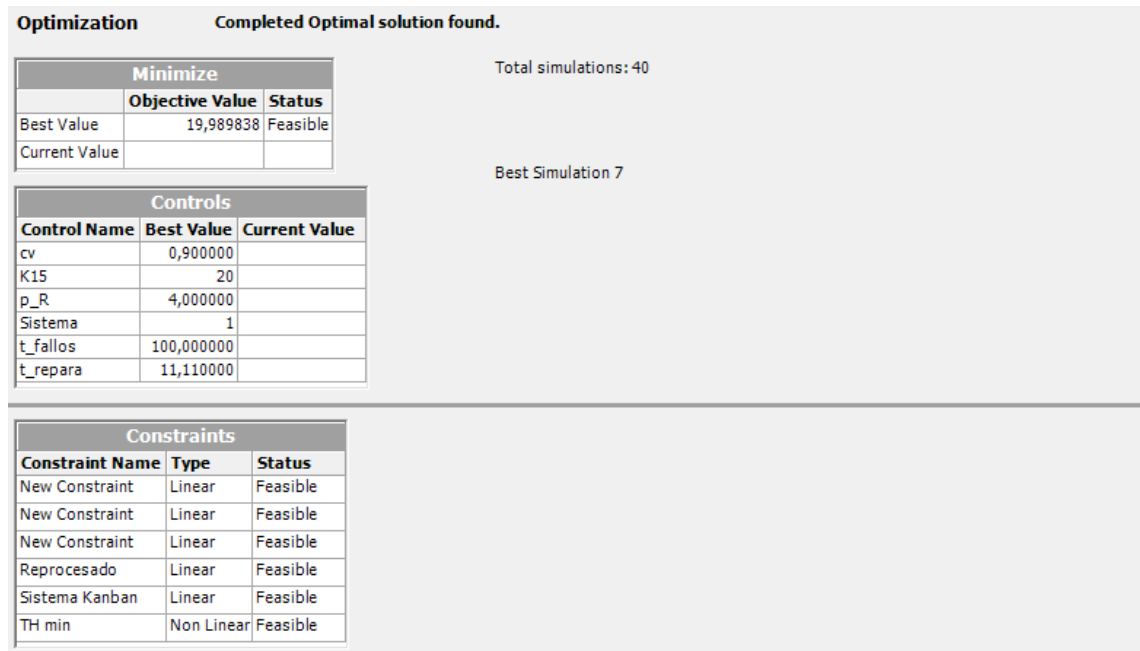


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=80%; p_R=8%; cv=0.1



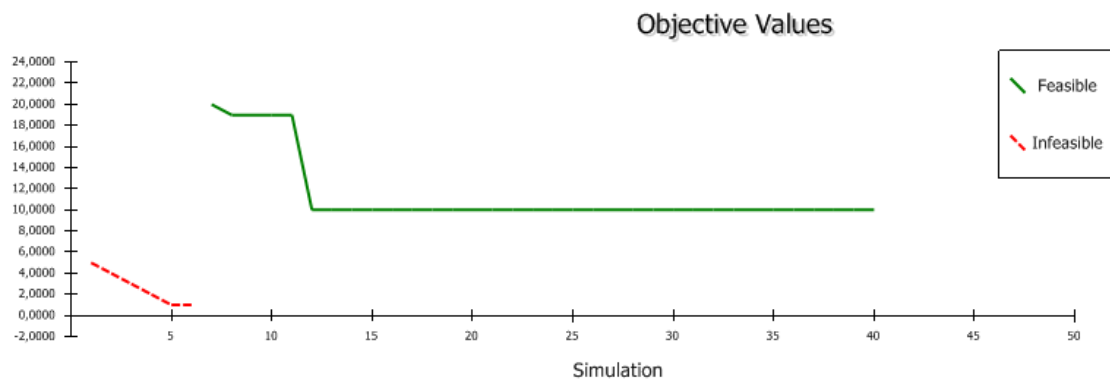
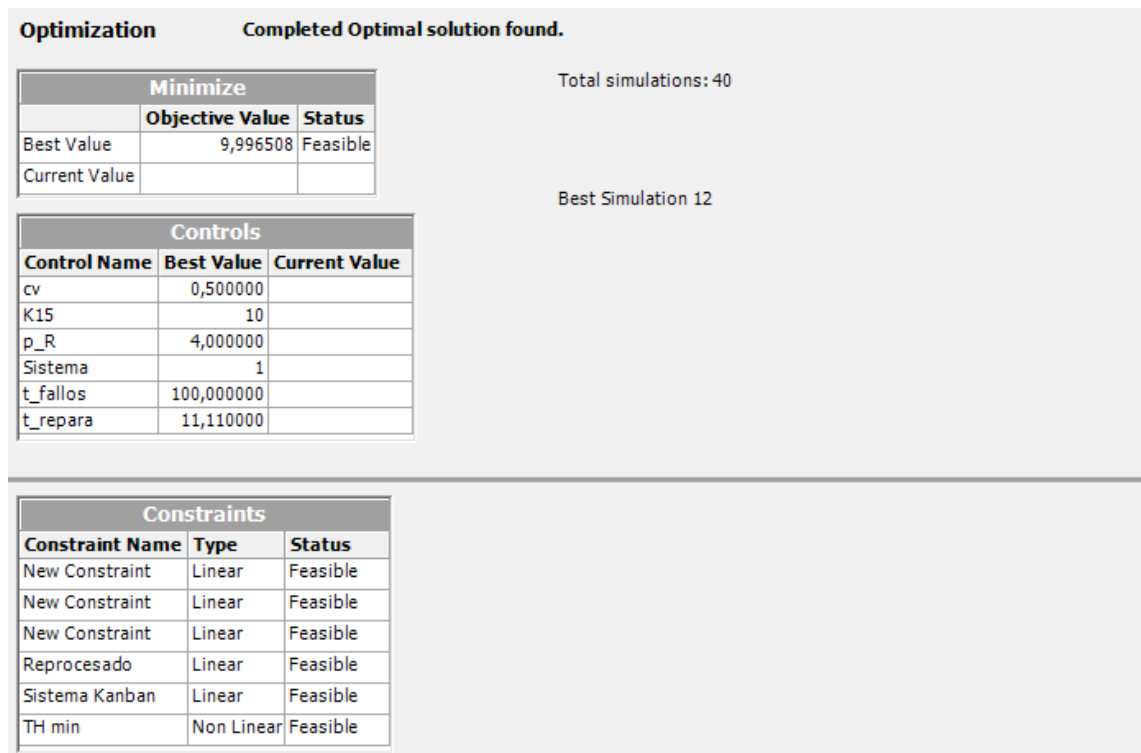


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=80%; p_R=4%; cv=0.9



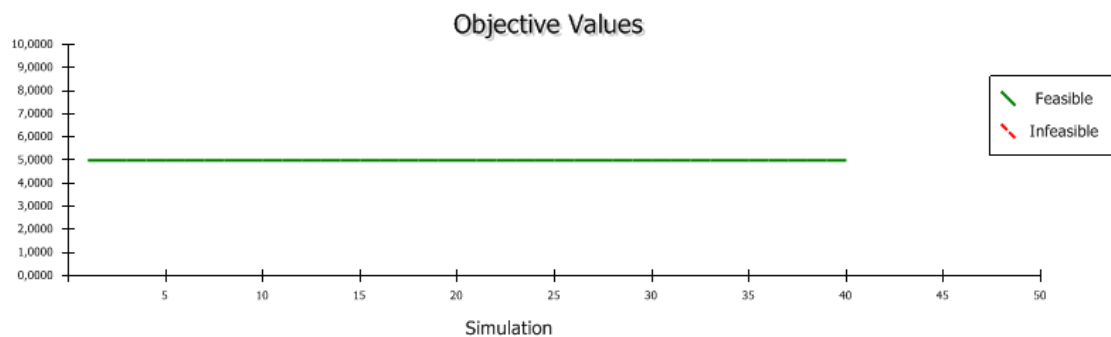
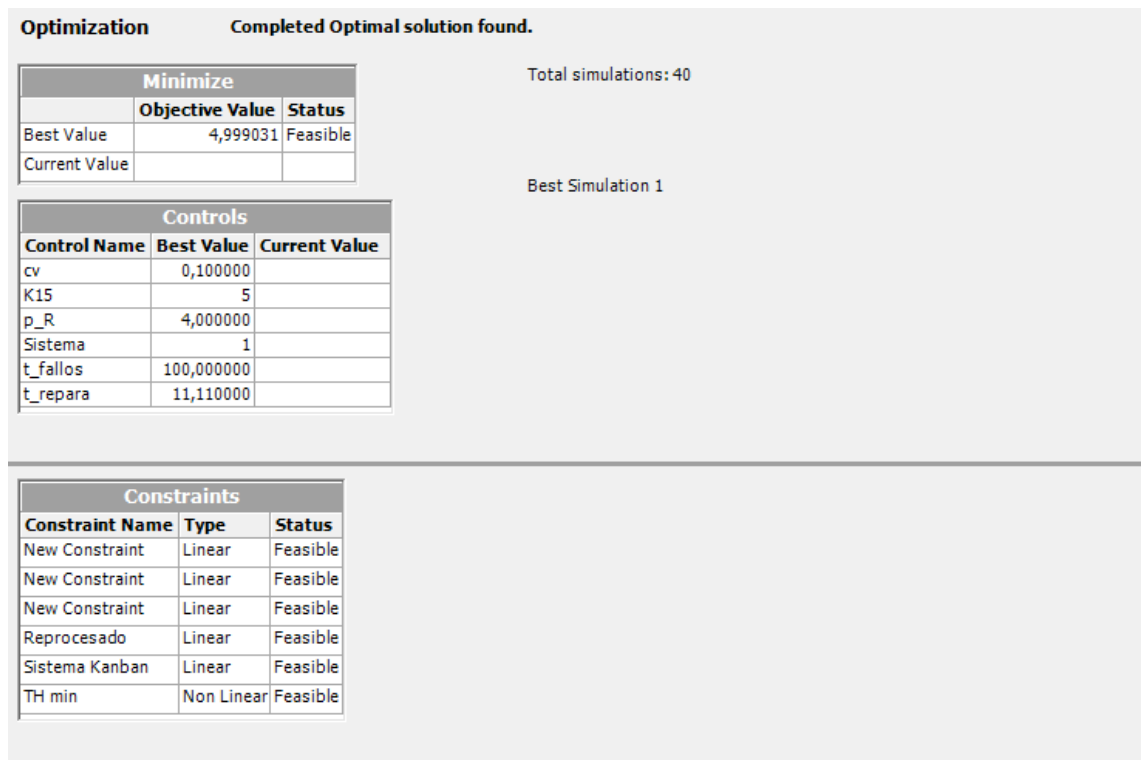


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=80%; p_R=4%; cv=0.5



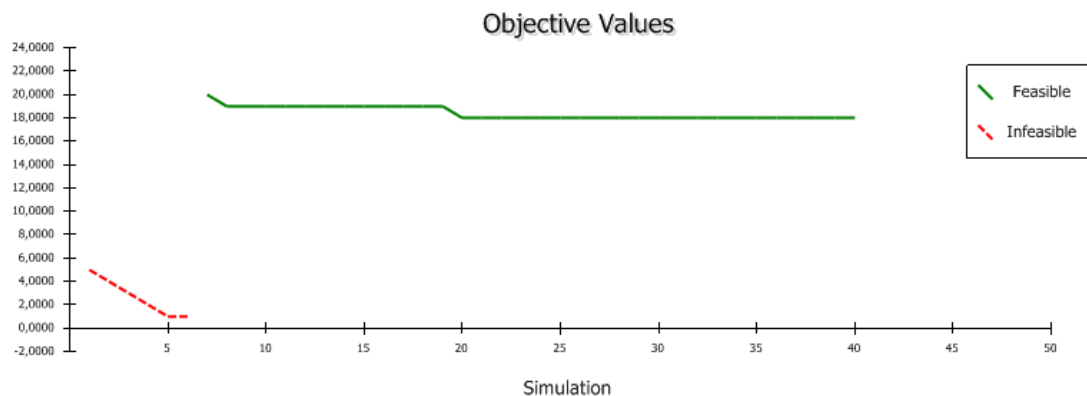
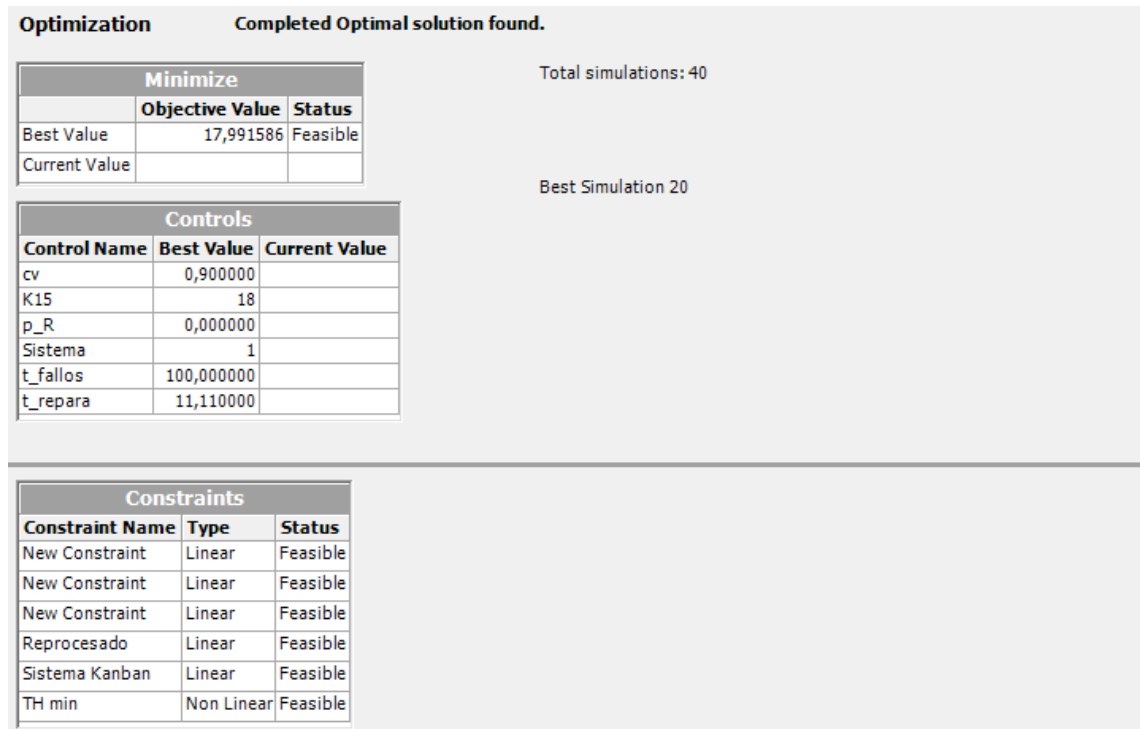


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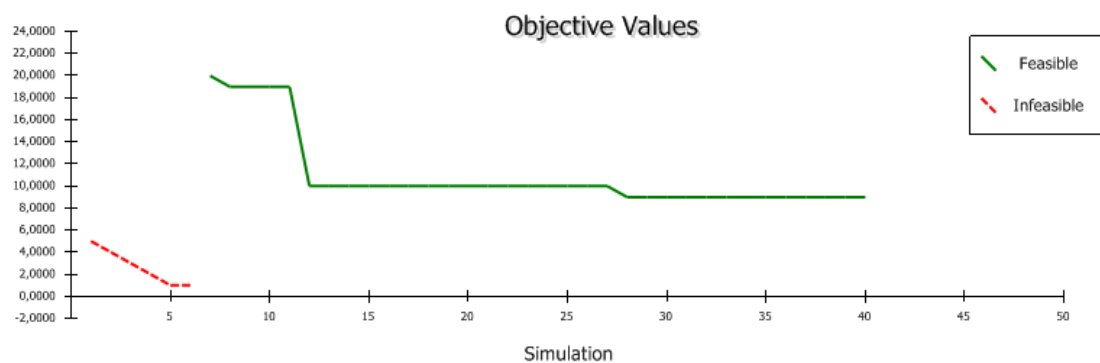
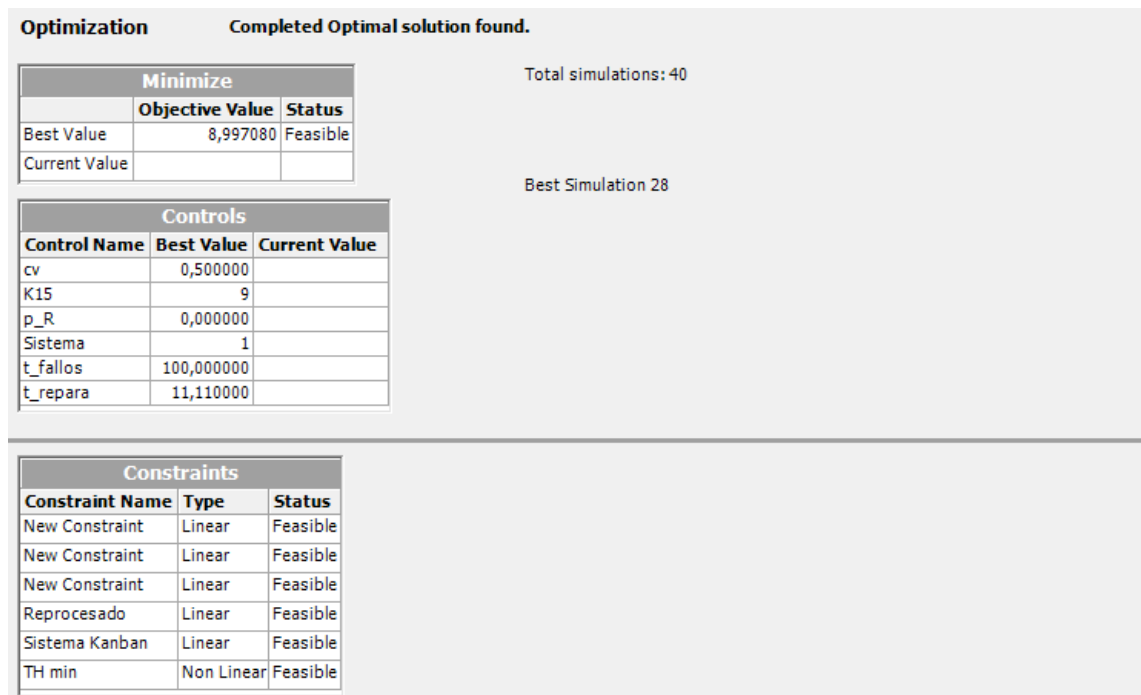


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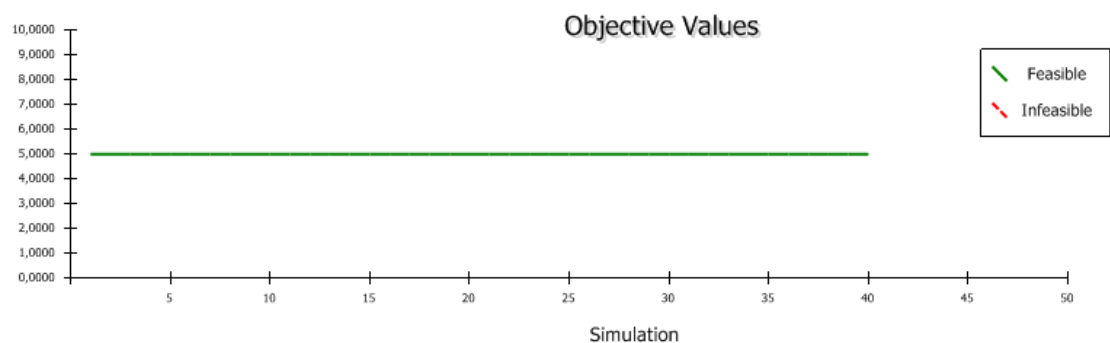
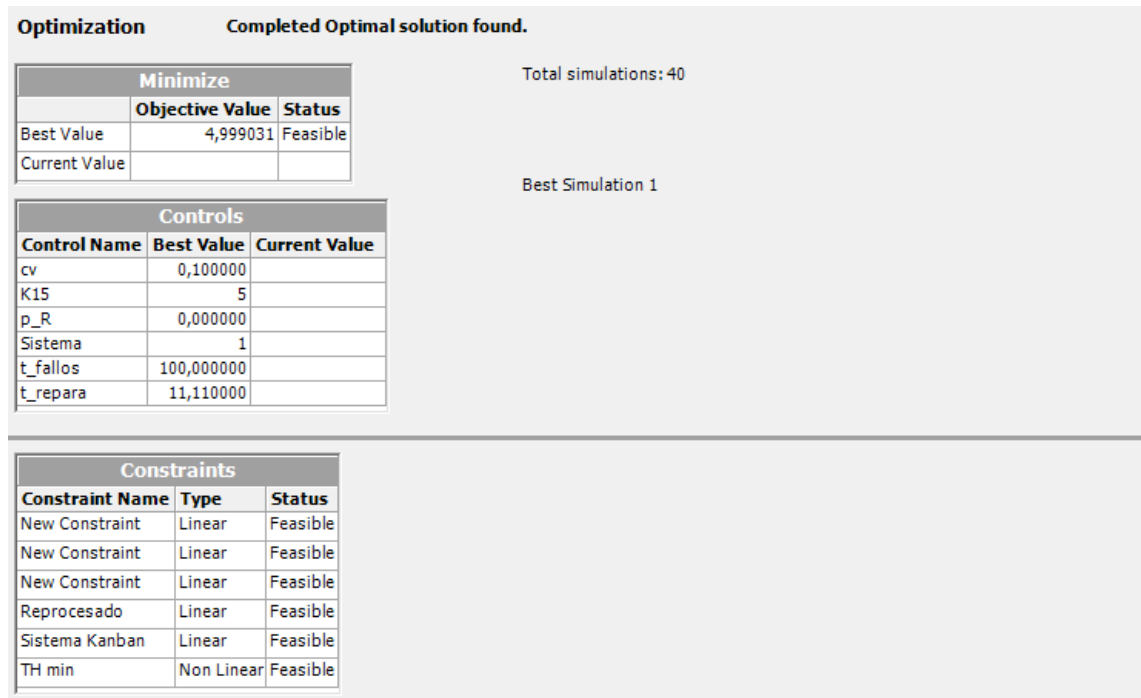


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=80%; p_R=0%; cv=0.5



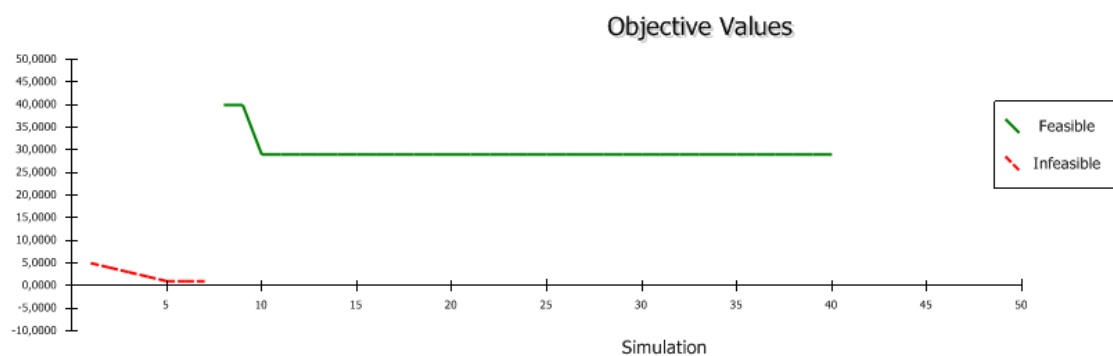
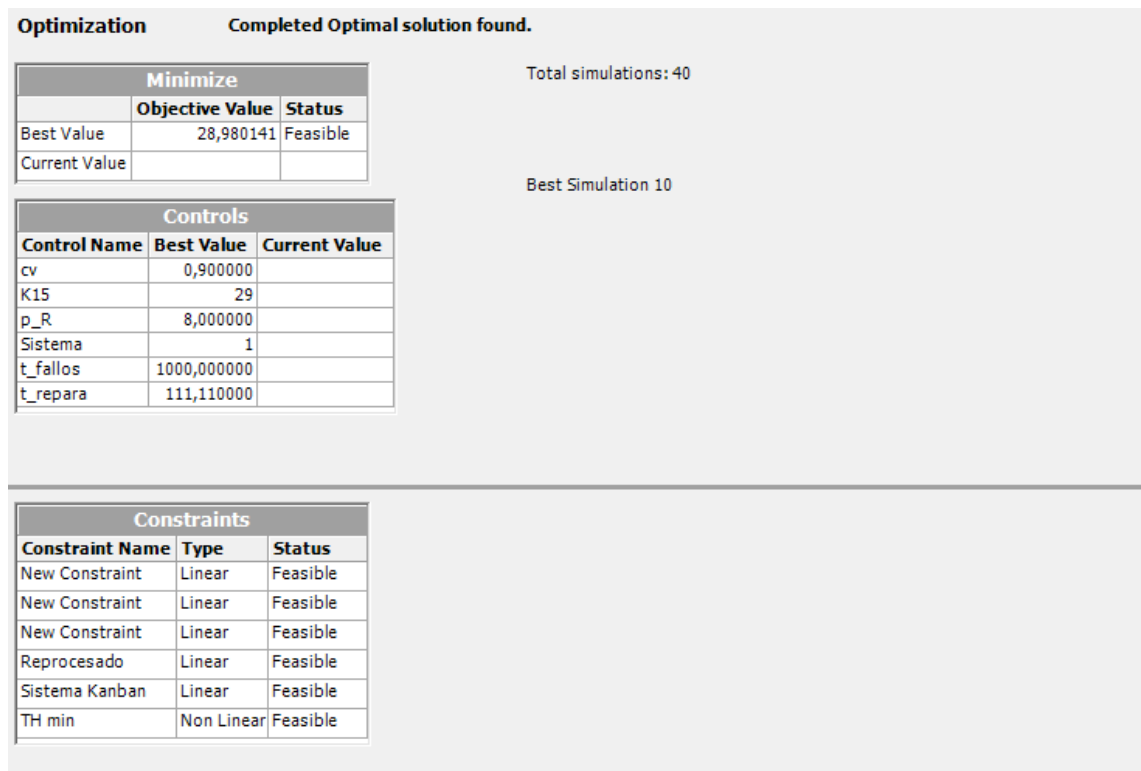


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=80%; p_R=0%; cv=0.1



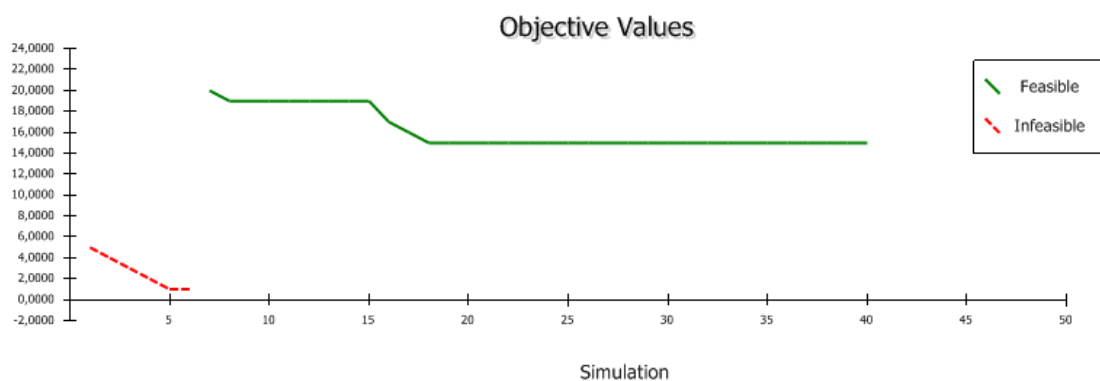
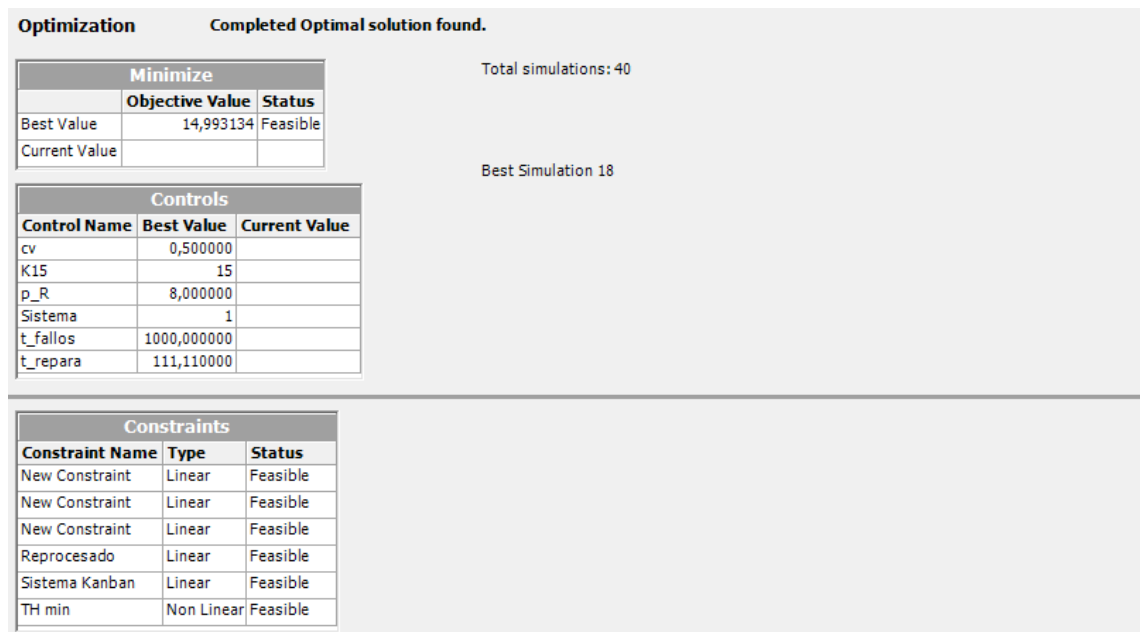


CONWIP PATRÓN DE AVERÍAS TIPO B; TH=80%; p_R=8%; cv=0.9



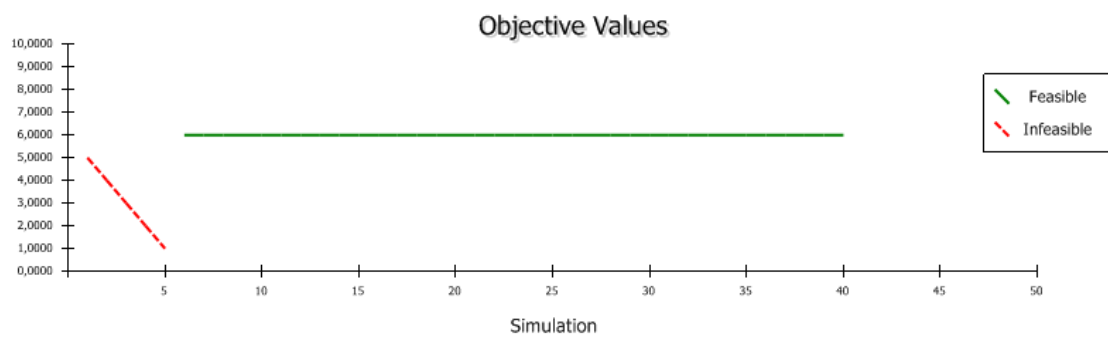
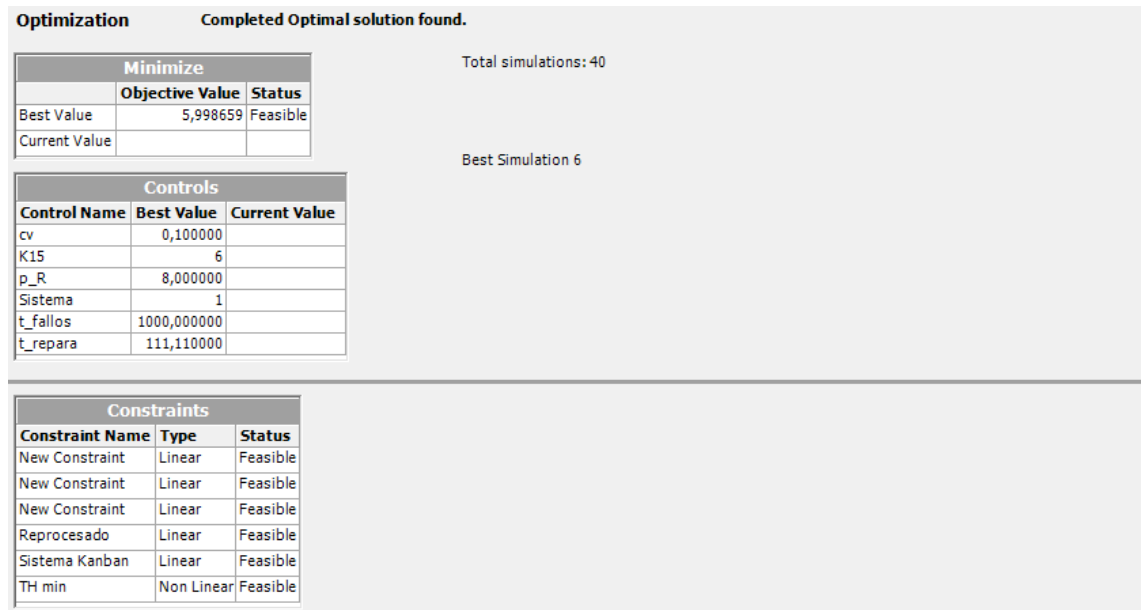


CONWIP PATRÓN DE AVERÍAS TIPOB; TH=80%; p_R=8%; cv=0.5



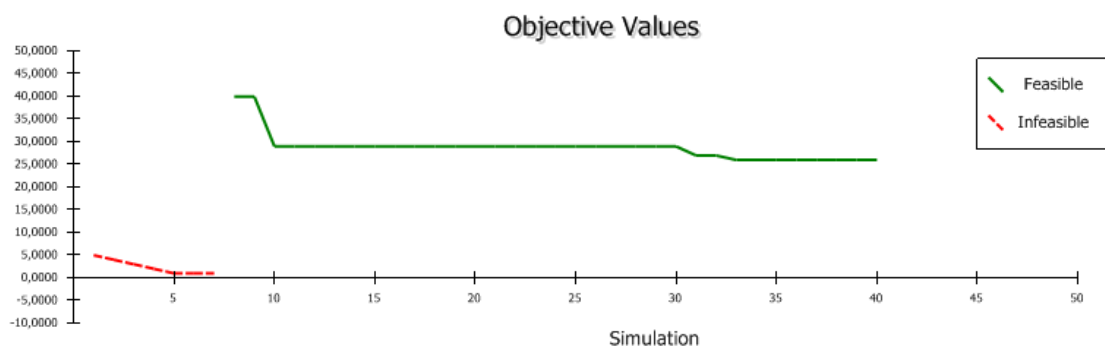
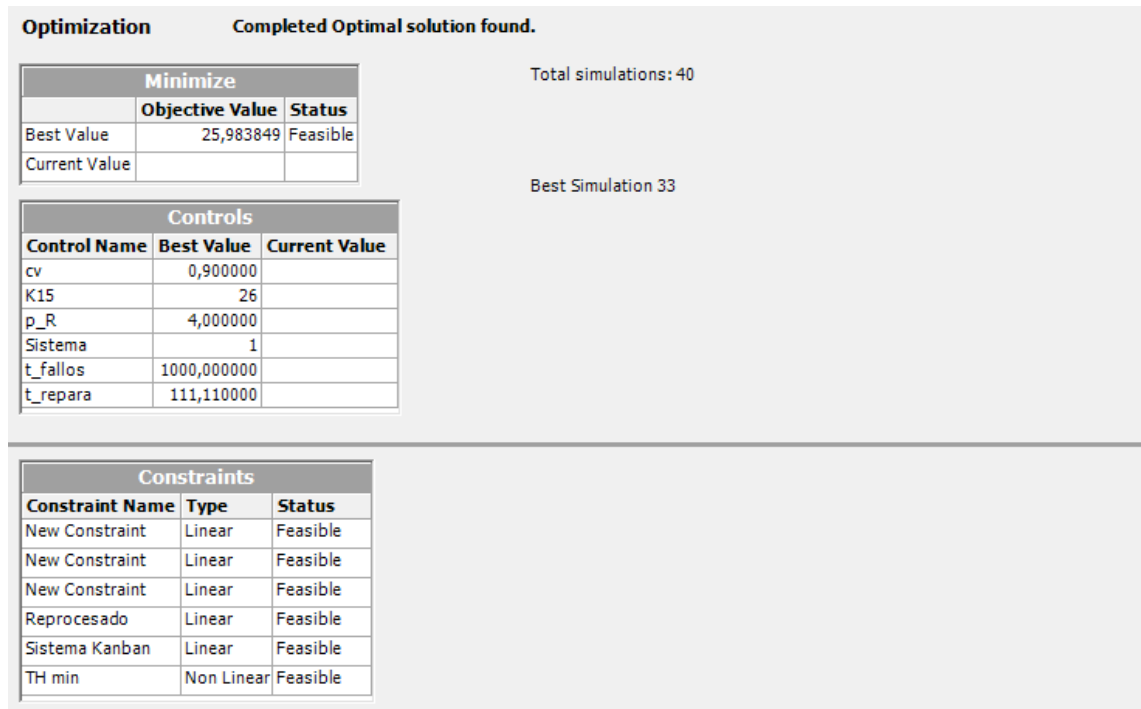


CONWIP PATRÓN DE AVERÍAS TIPOB; TH=80%; p_R=8%; cv=0.1



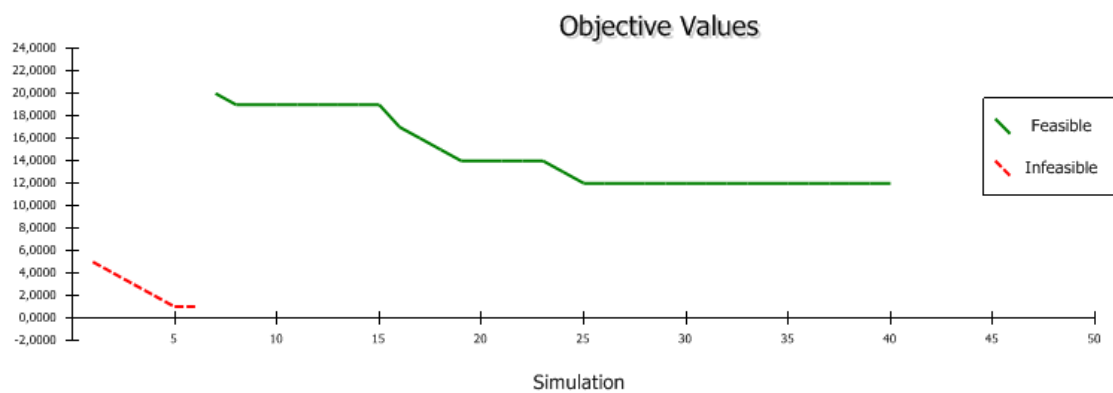
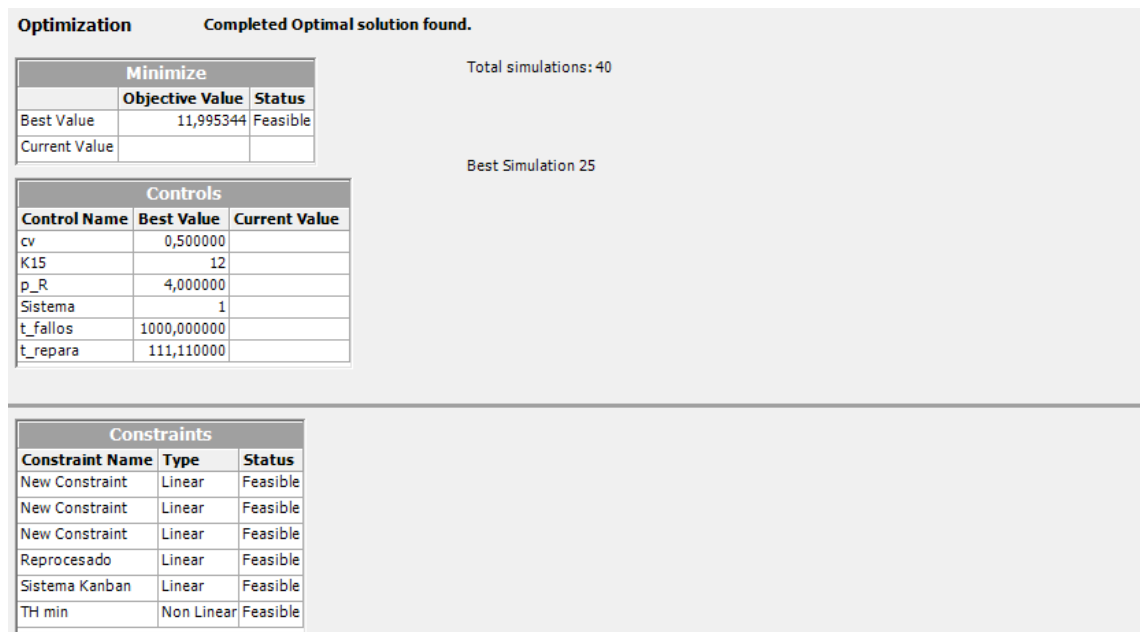


CONWIP PATRÓN DE AVERÍAS TIPOB; TH=80%; p_R=4%; cv=0.9



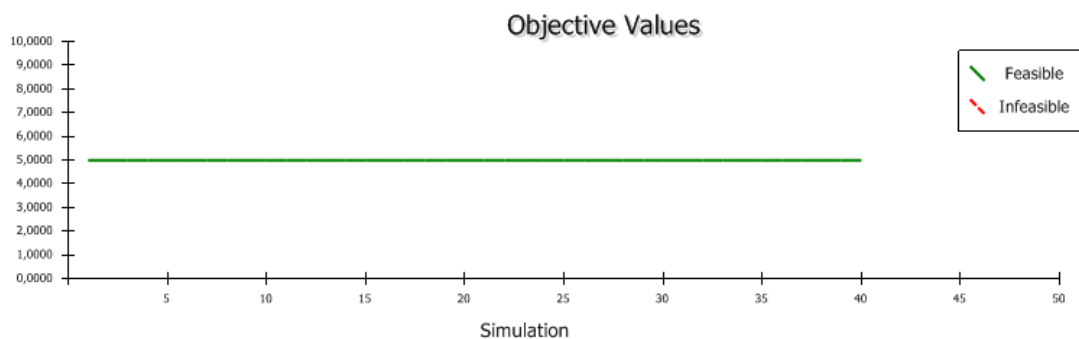
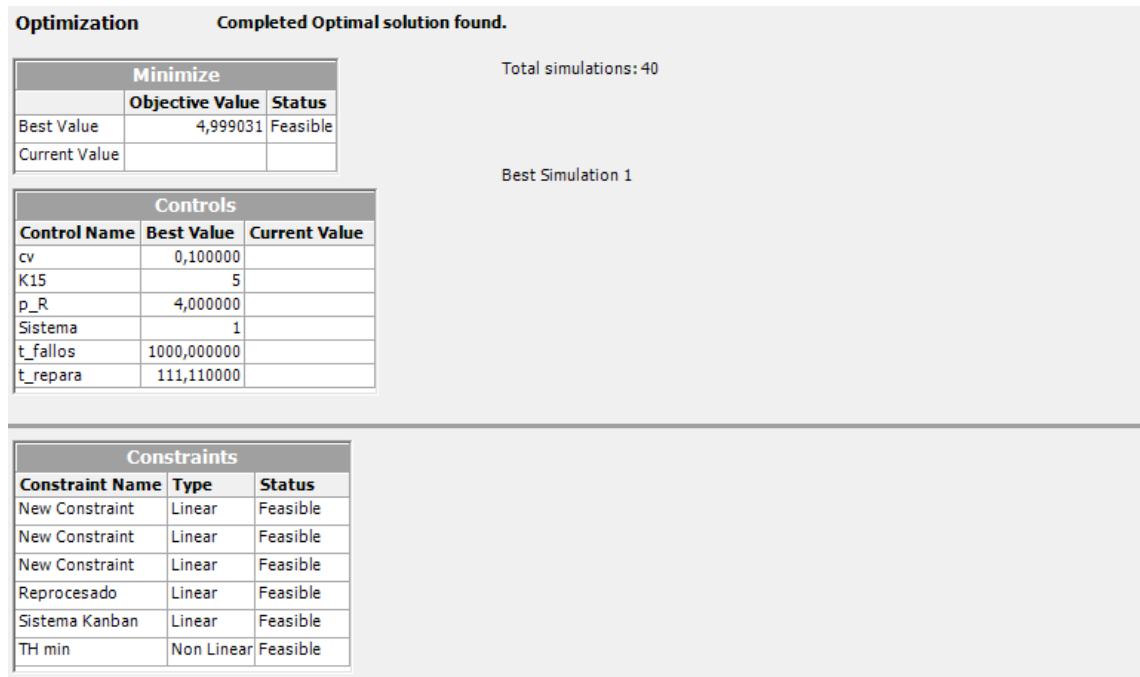


CONWIP PATRÓN DE AVERÍAS TIPOB; TH=80%; p_R=4%; cv=0.5



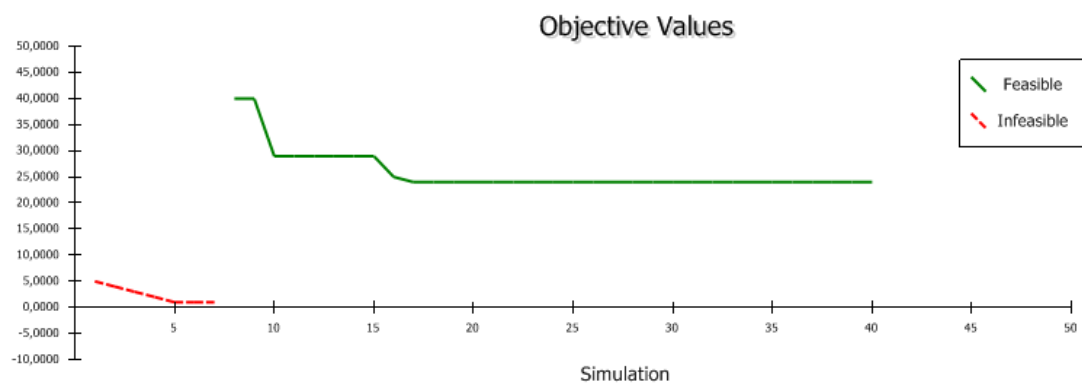
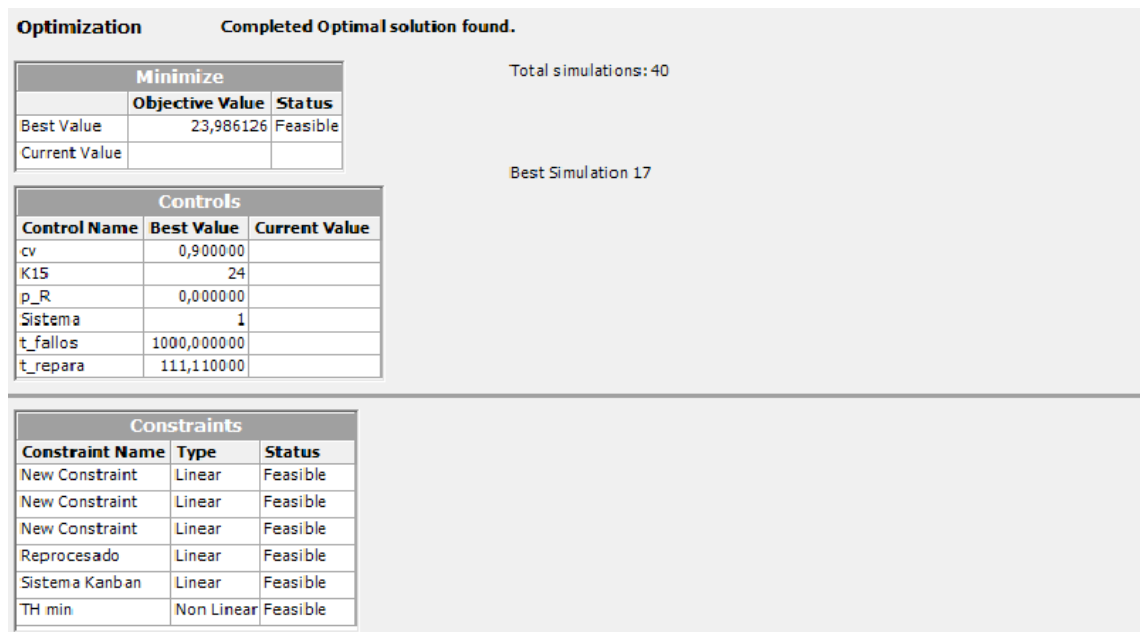


CONWIP PATRÓN DE AVERÍAS TIPOB; TH=80%; p_R=4%; cv=0.1



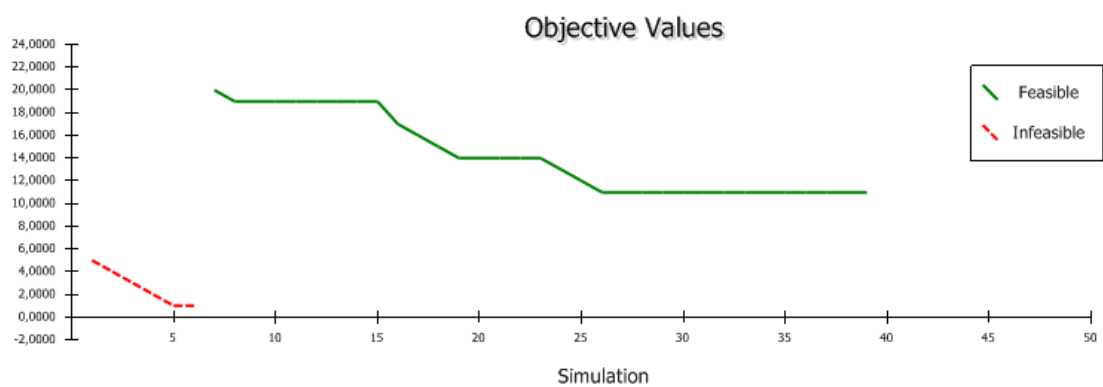
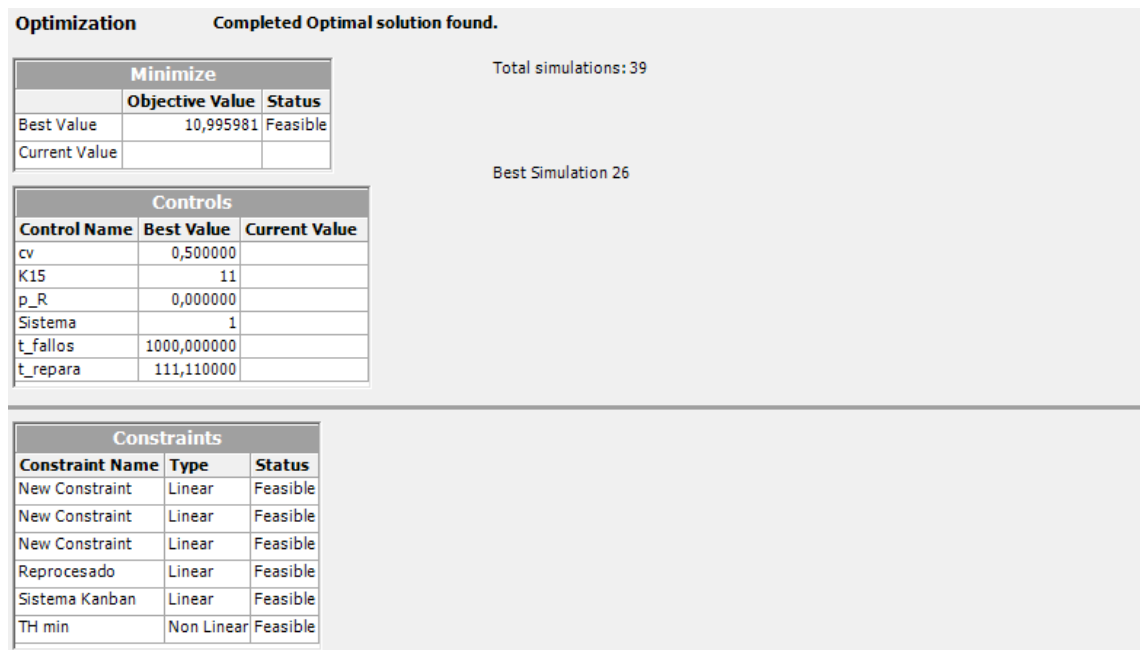


CONWIP PATRÓN DE AVERÍAS TIPOB; TH=80%; p_R=0%; cv=0.9



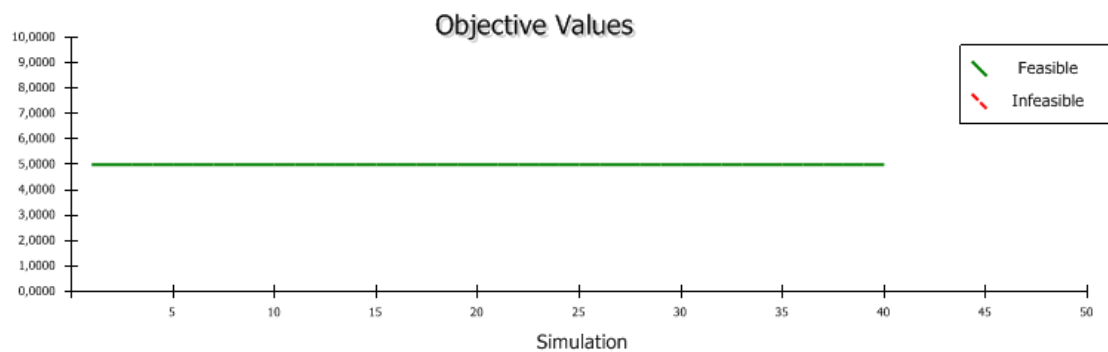
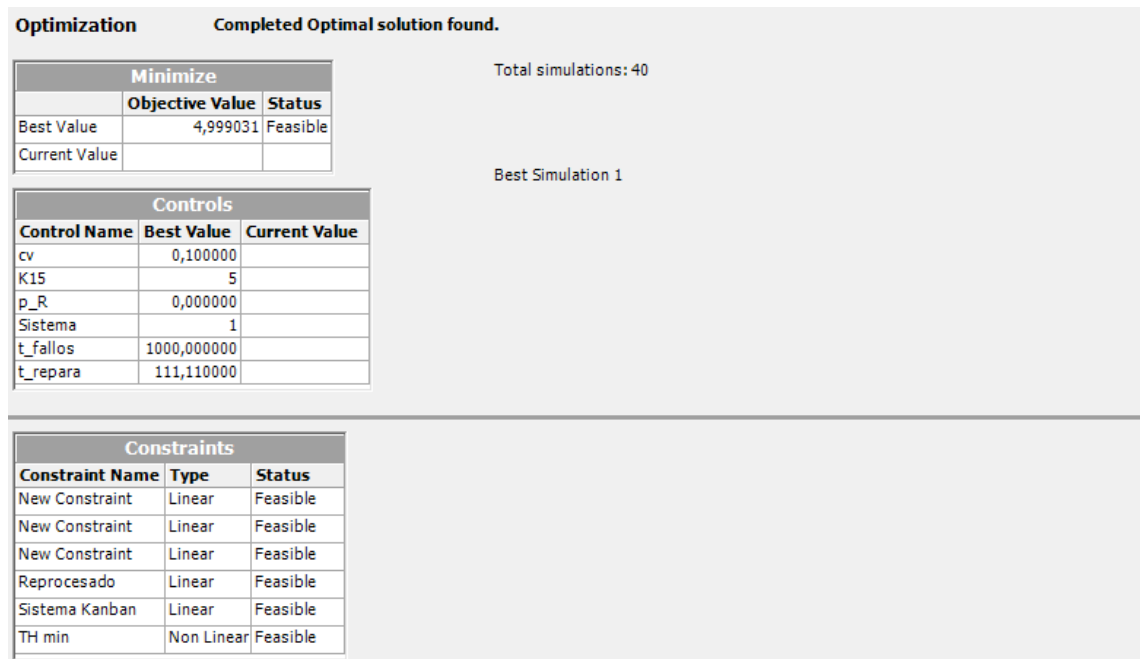


CONWIP PATRÓN DE AVERÍAS TIPOB; TH=80%; p_R=0%; cv=0.5





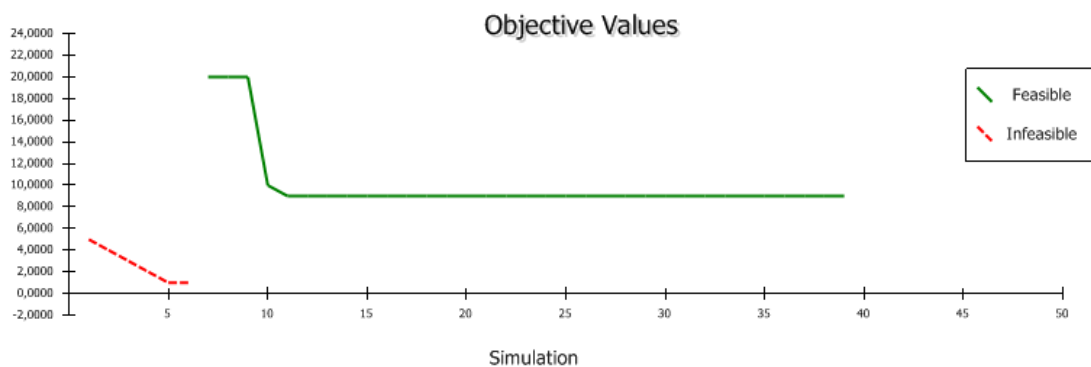
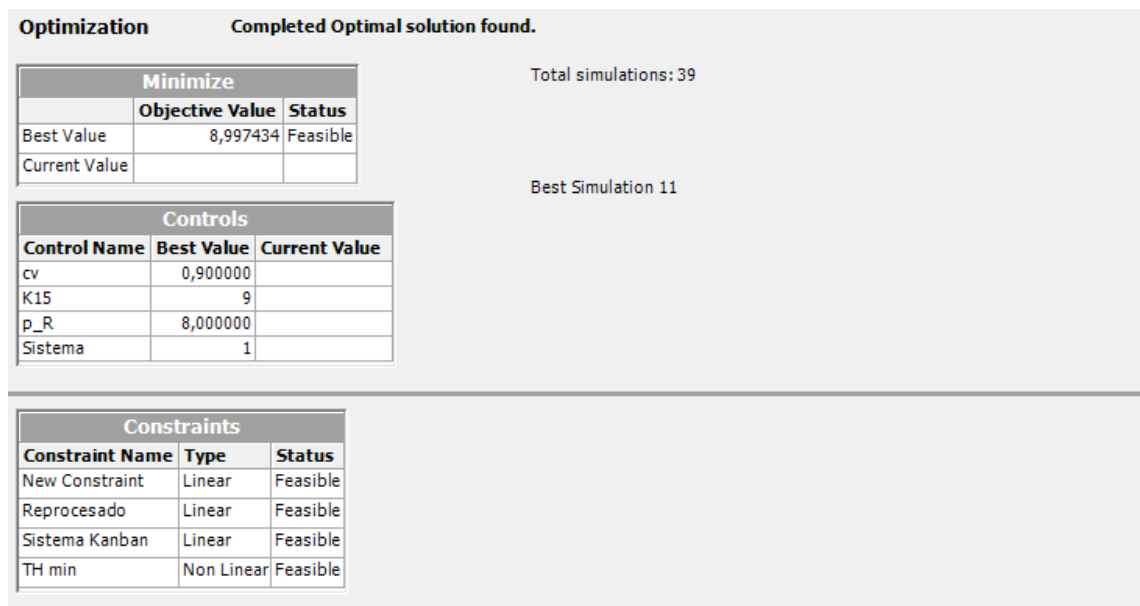
CONWIP PATRÓN DE AVERÍAS TIPOB; TH=80%; p_R=0%; cv=0.1





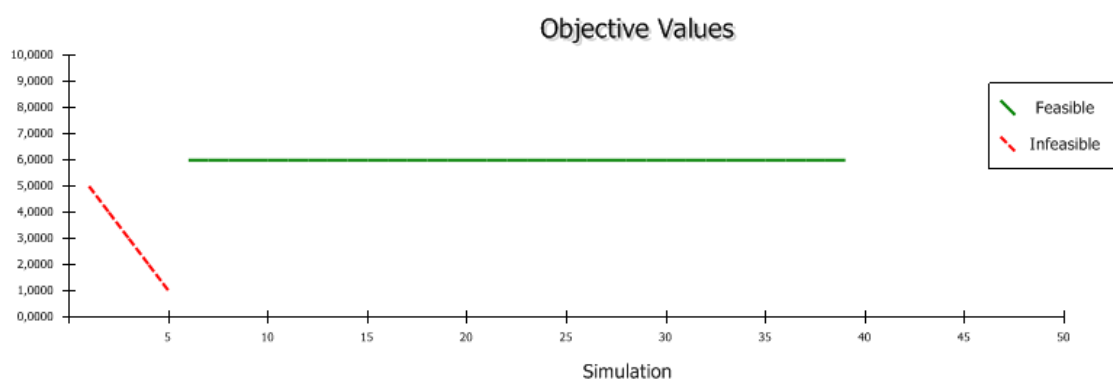
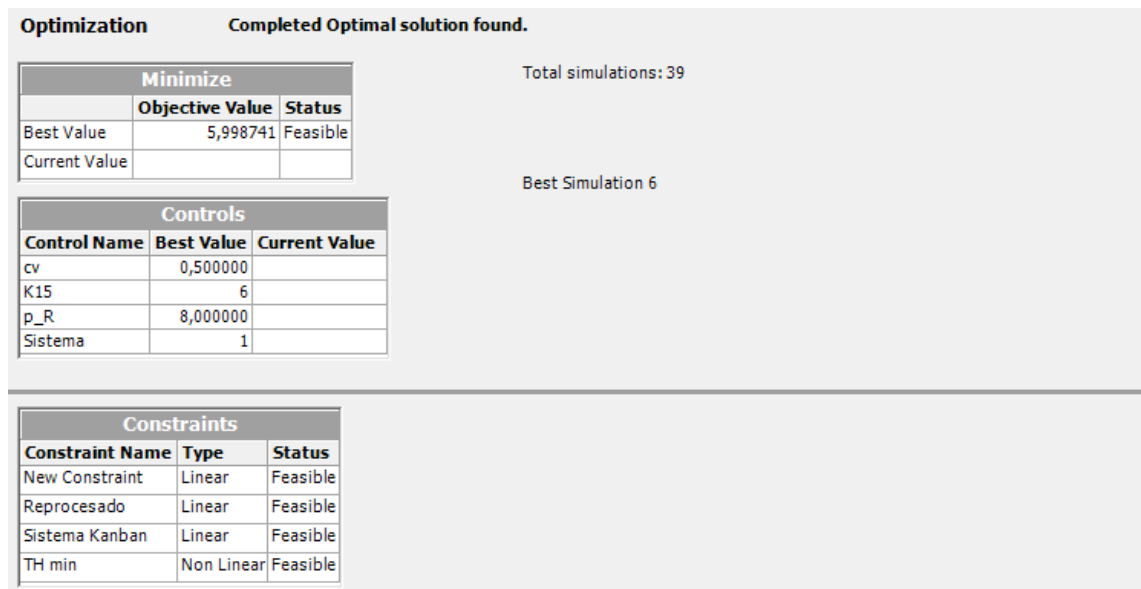
D. CONWIP TH=70%

CONWIP SIN FALLOS; TH=70%; p_R=8%; cv=0.9



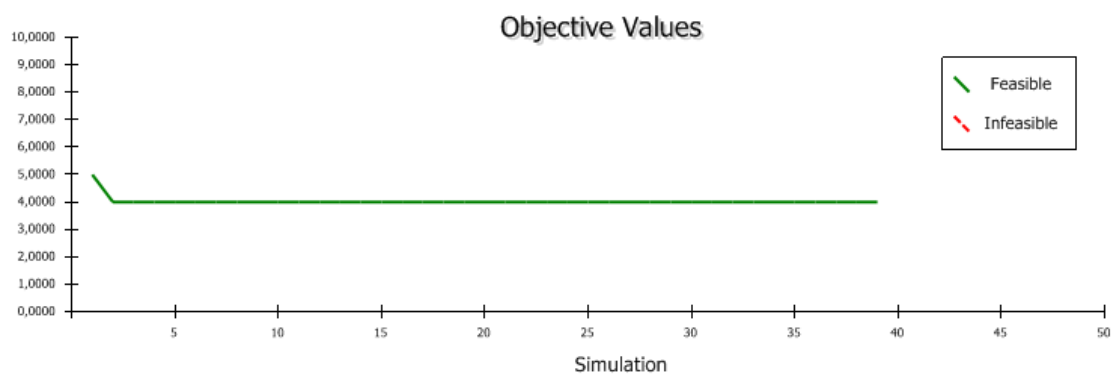
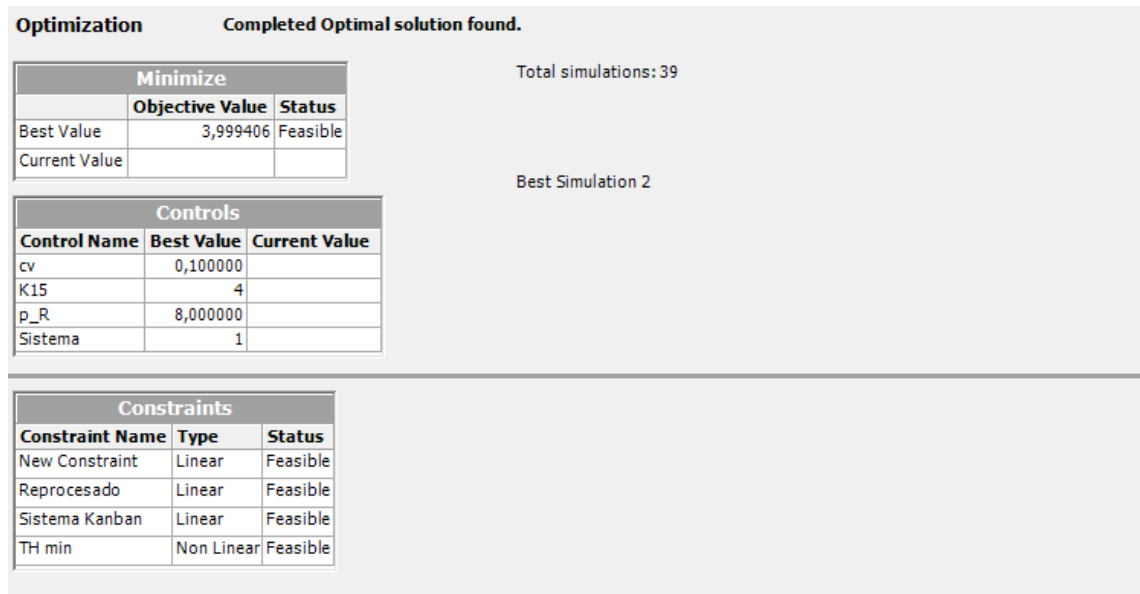


CONWIP SIN FALLOS; TH=70%; p_R=8%; cv=0.5





CONWIP SIN FALLOS; TH=70%; p_R=8%; cv=0.1





CONWIP SIN FALLOS; TH=70%; p_R=4%; cv=0.9

Optimization **Completed Optimal solution found.**

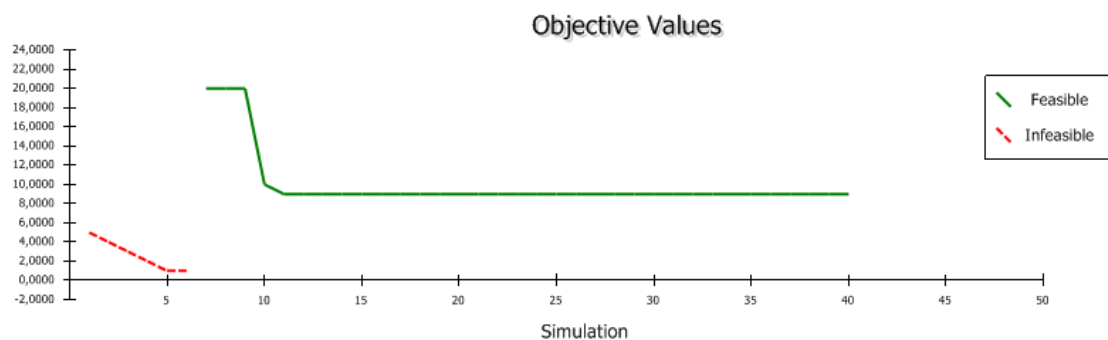
Total simulations: 40

Best Simulation 11

Minimize		
	Objective Value	Status
Best Value	8,997434	Feasible
Current Value		

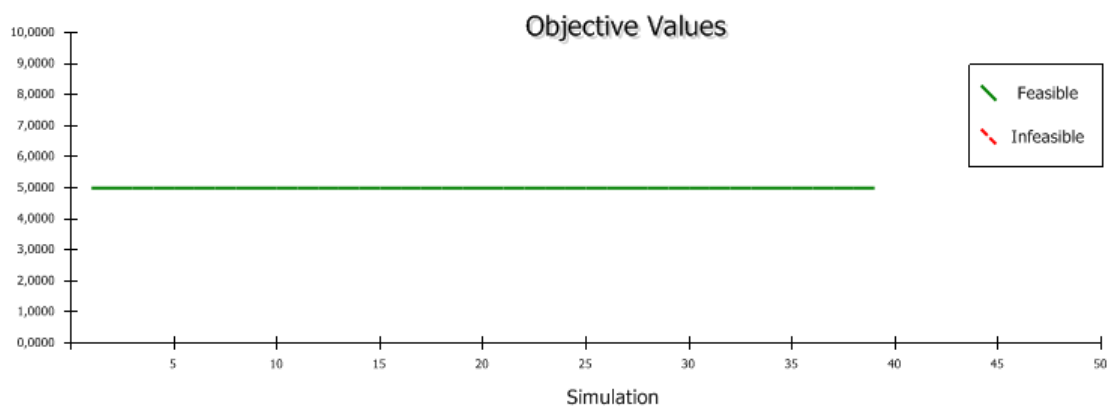
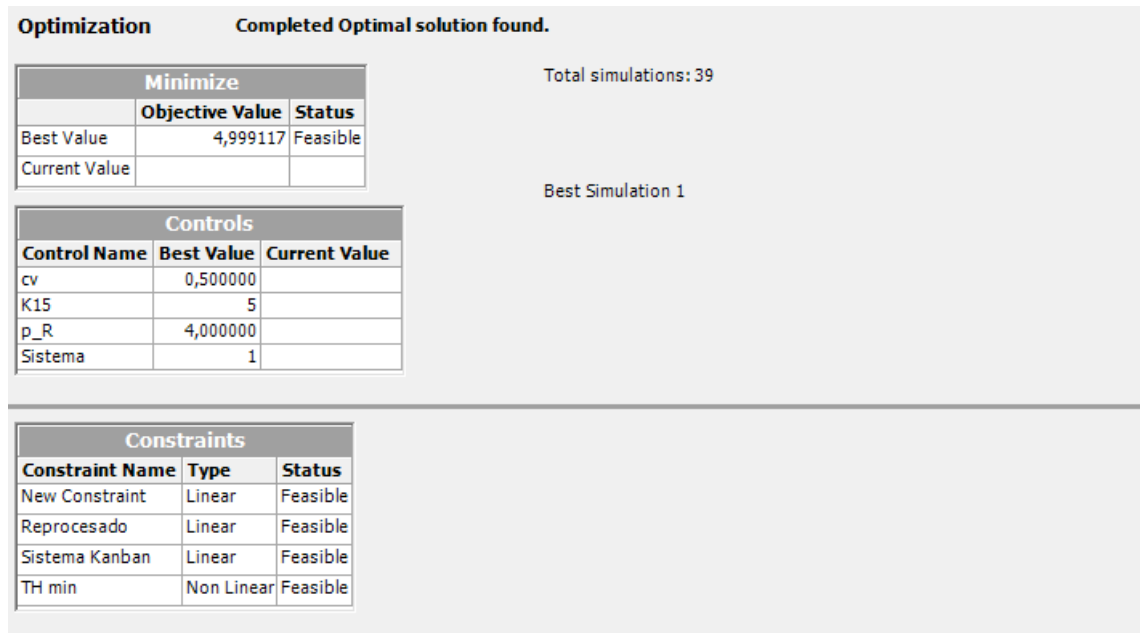
Controls		
Control Name	Best Value	Current Value
cv	0,900000	
K15	9	
p_R	4,000000	
Sistema	1	

Constraints		
Constraint Name	Type	Status
New Constraint	Linear	Feasible
Reprocesado	Linear	Feasible
Sistema Kanban	Linear	Feasible
TH min	Non Linear	Feasible



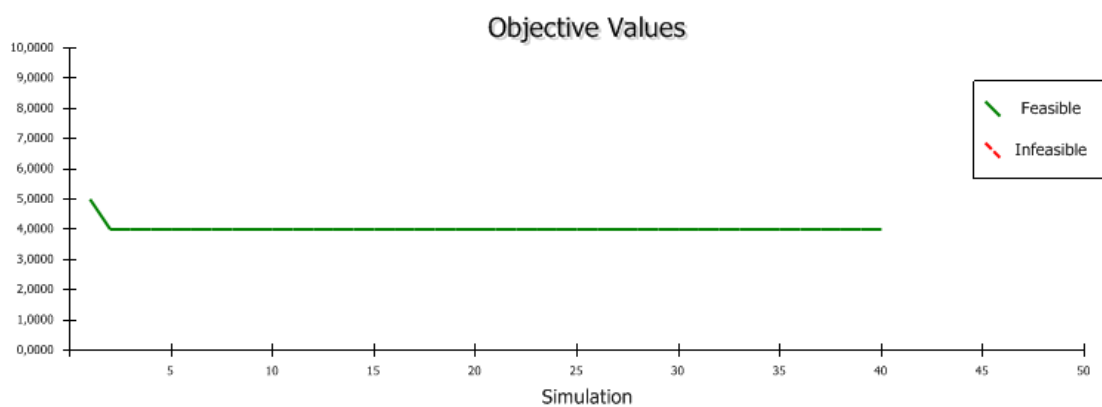
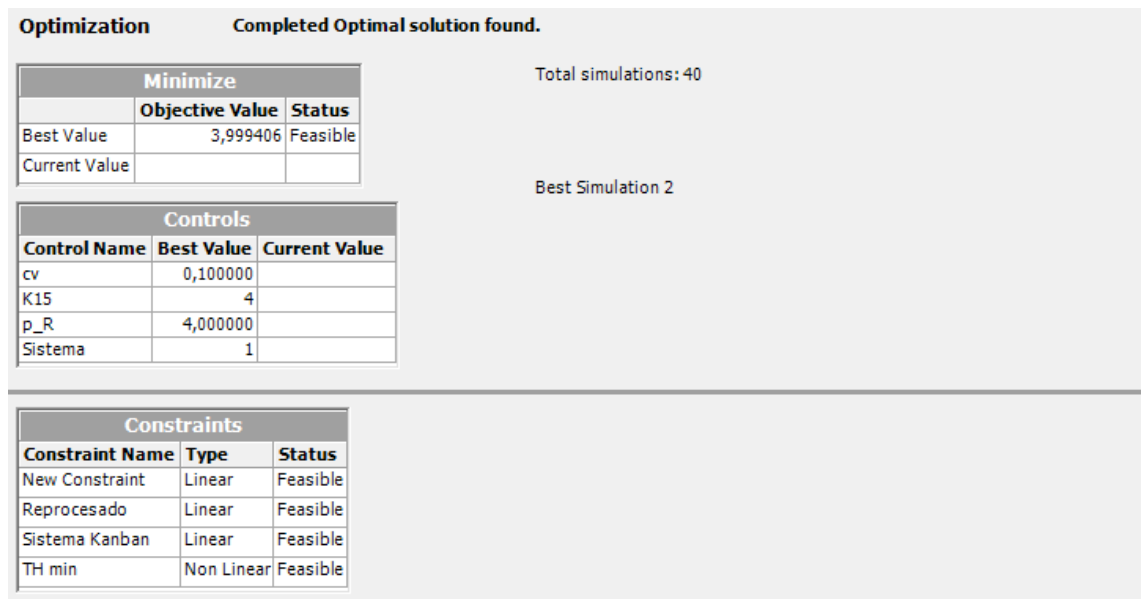


CONWIP SIN FALLOS; TH=70%; p_R=4%; cv=0.5



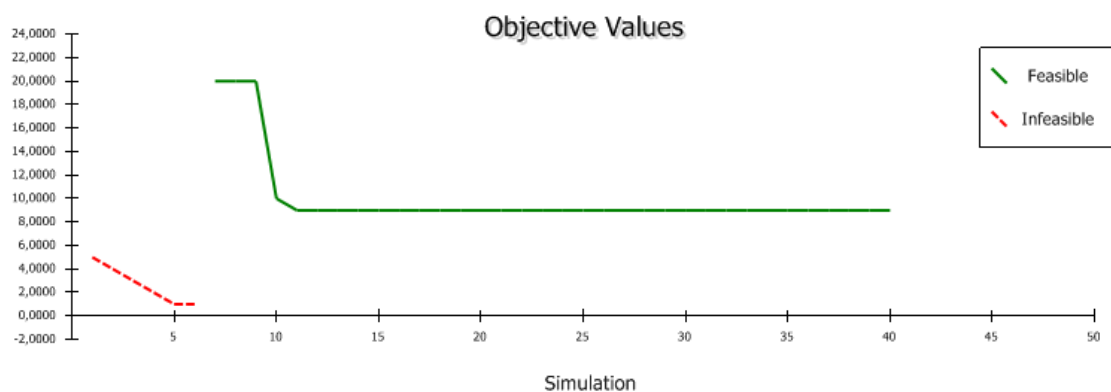
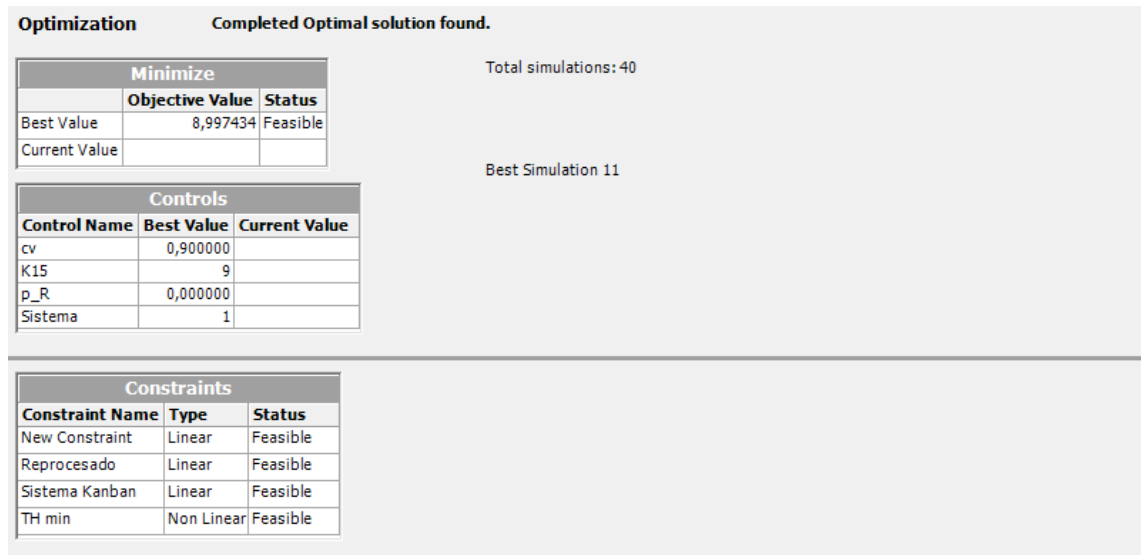


CONWIP SIN FALLOS; TH=70%; p_R=4%; cv=0.1



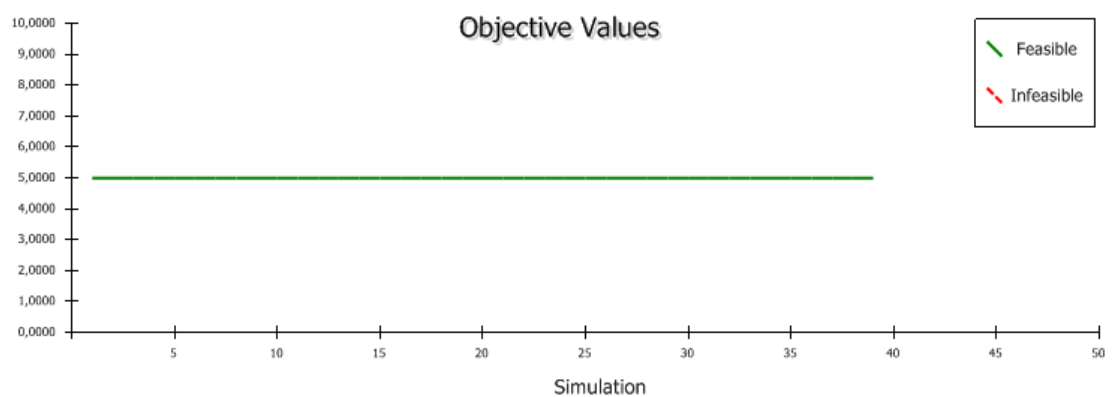
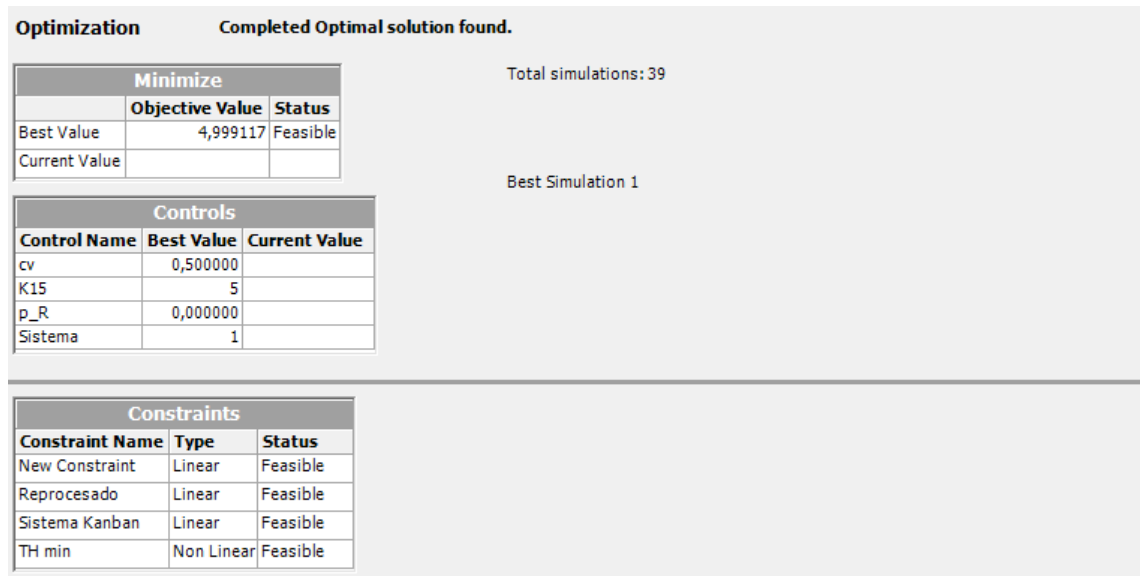


CONWIP SIN FALLOS; TH=70%; p_R=0; cv=0.9



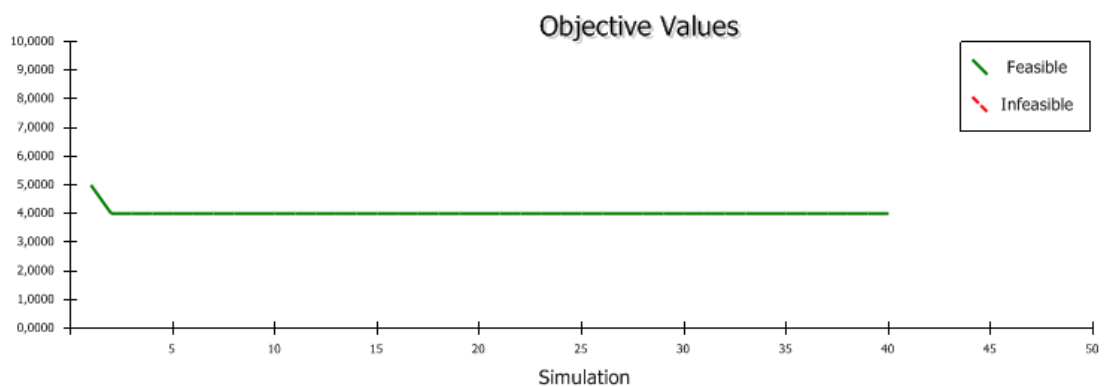
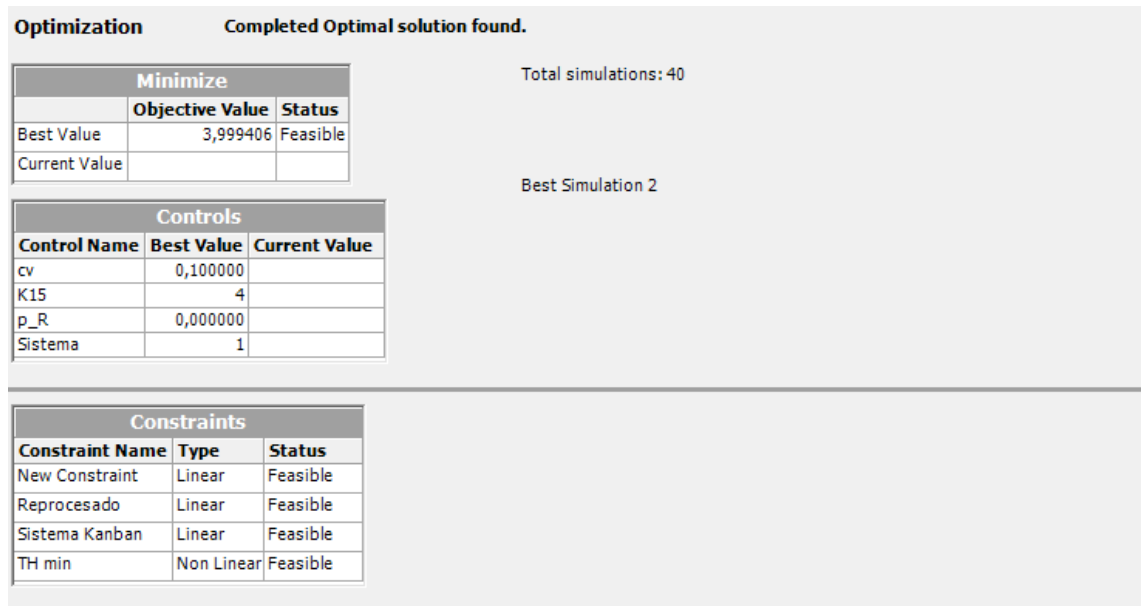


CONWIP SIN FALLOS; TH=70%; p_R=0%; cv=0.5



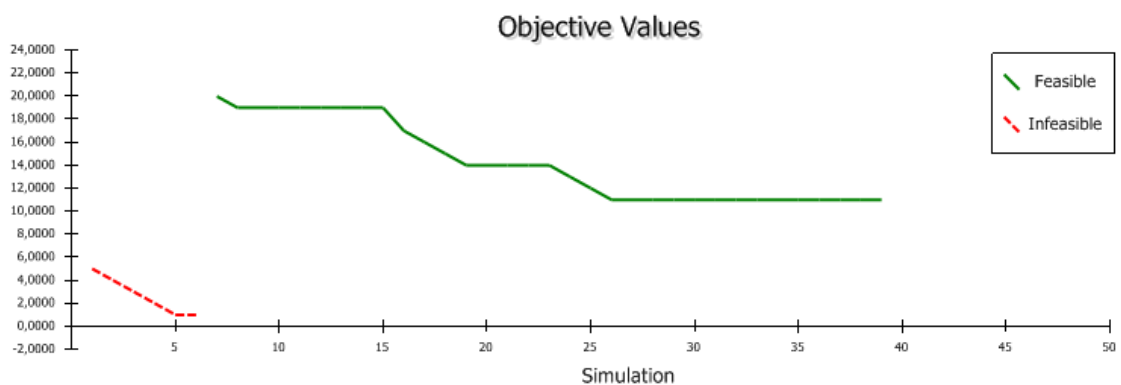
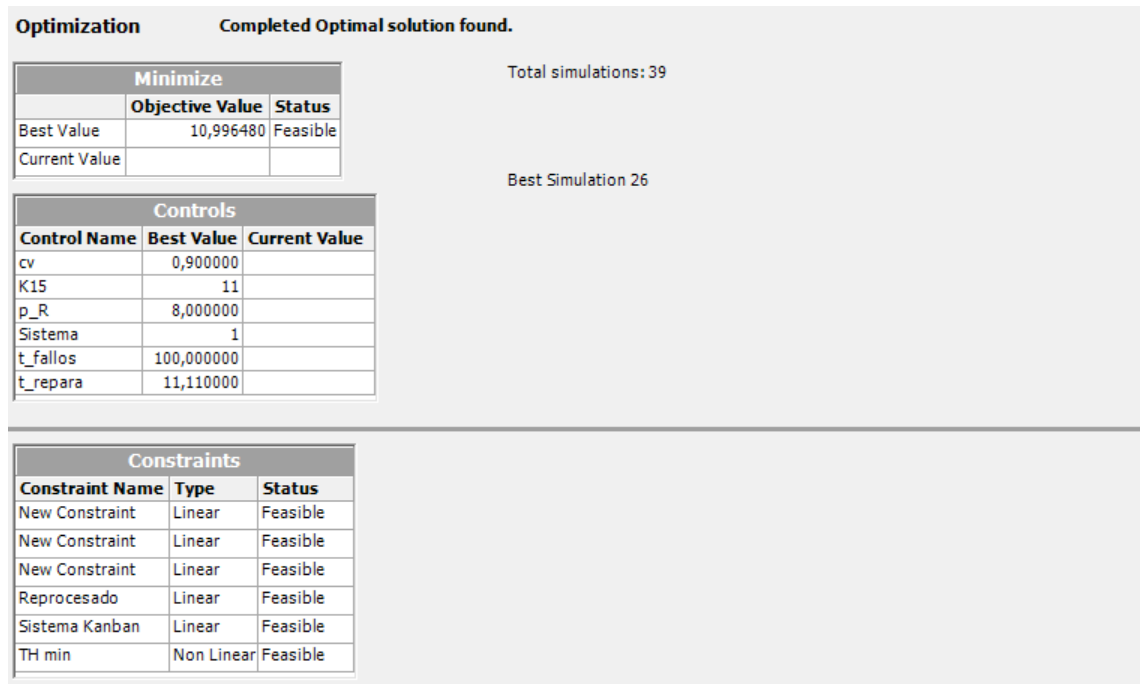


CONWIP SIN FALLOS; TH=70%; p_R=0%; cv=0.1



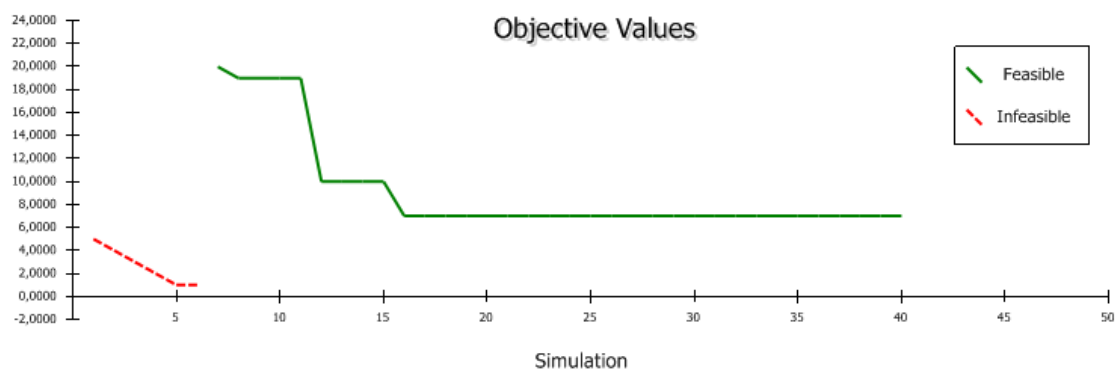
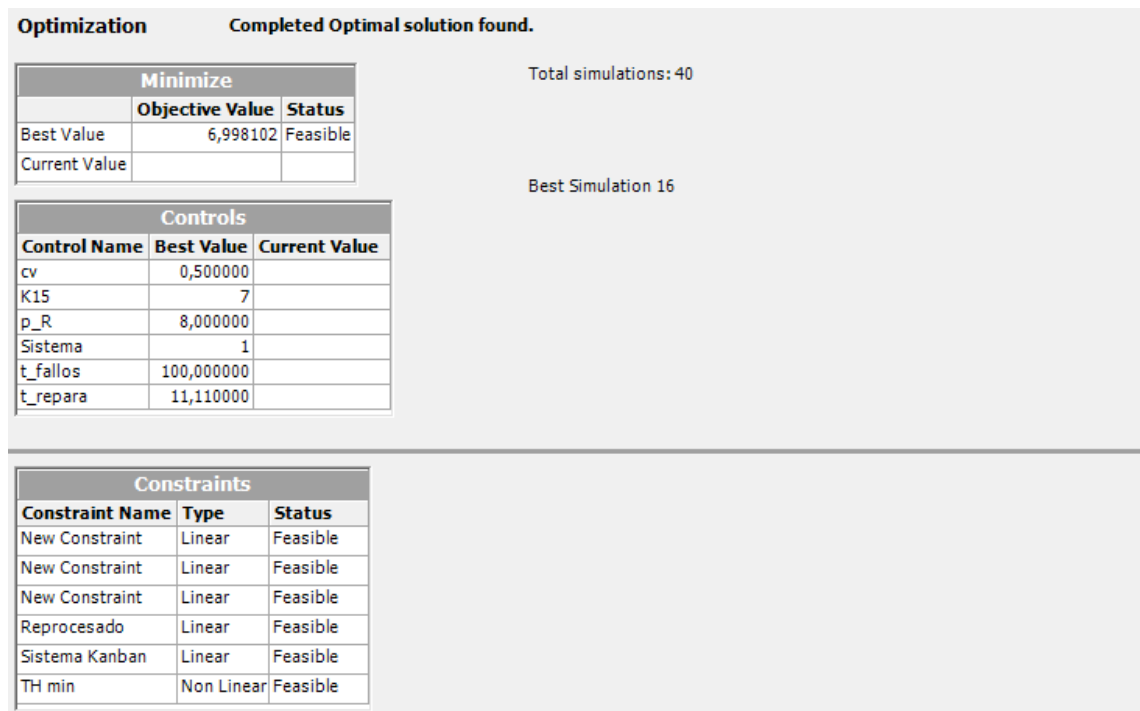


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=70%; p_R=8%; cv=0.9



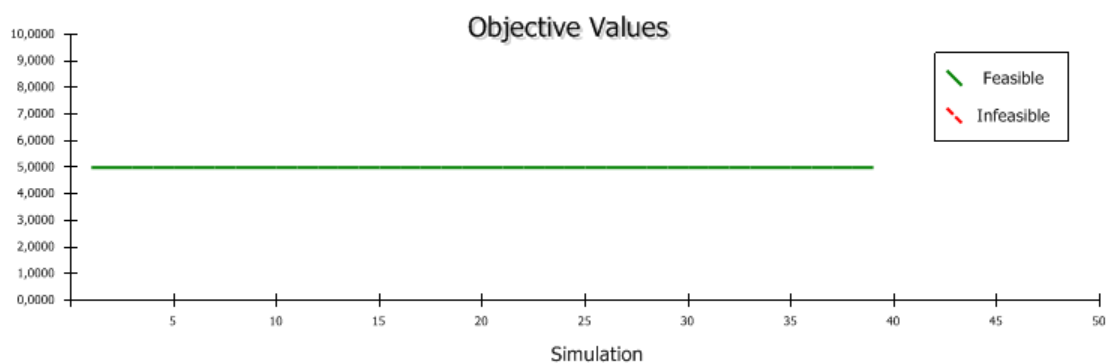
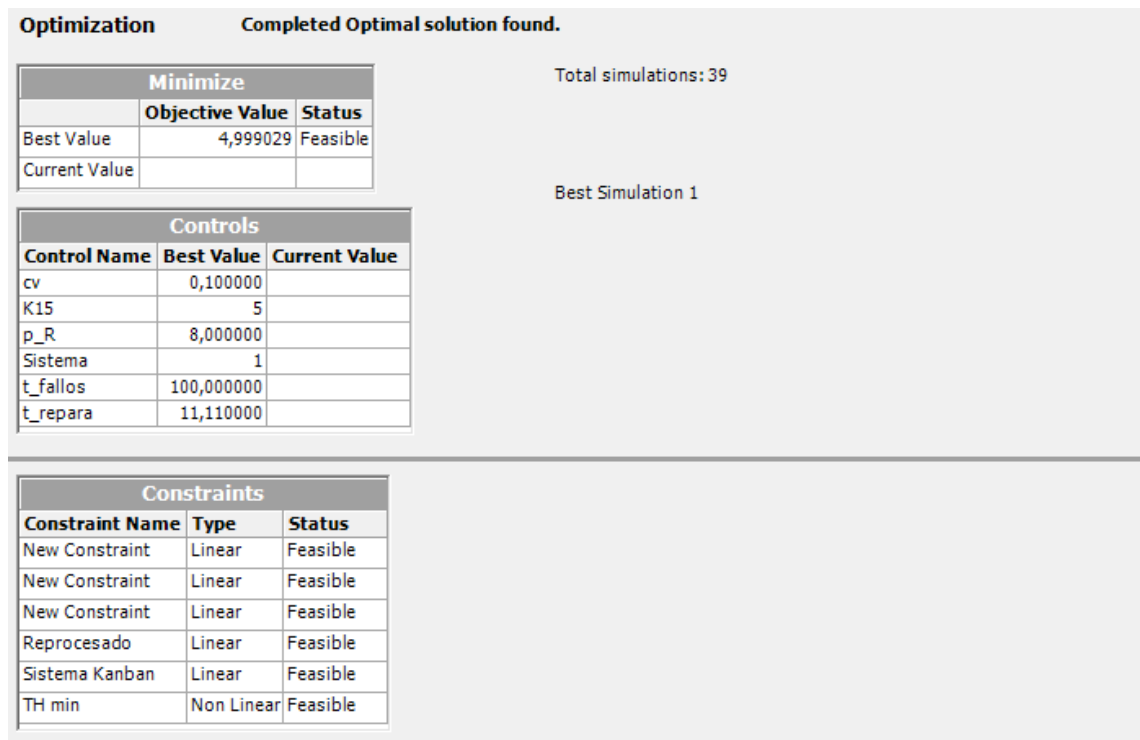


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=70%; p_R=8%; cv=0.5



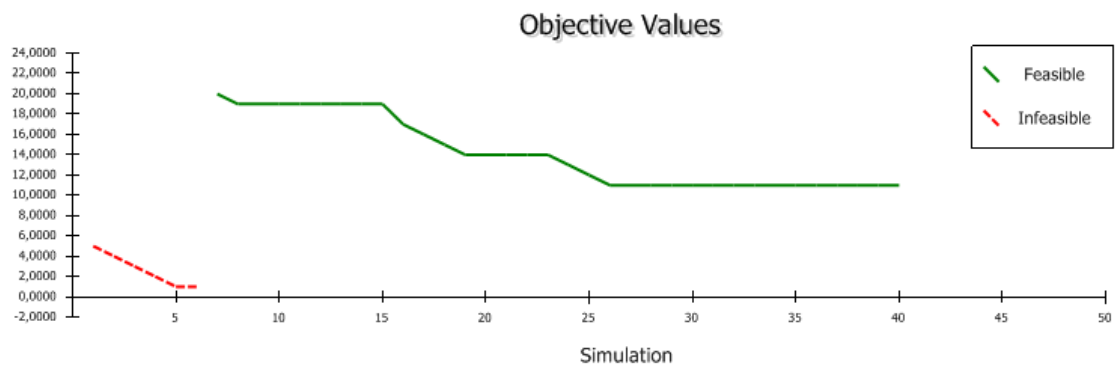
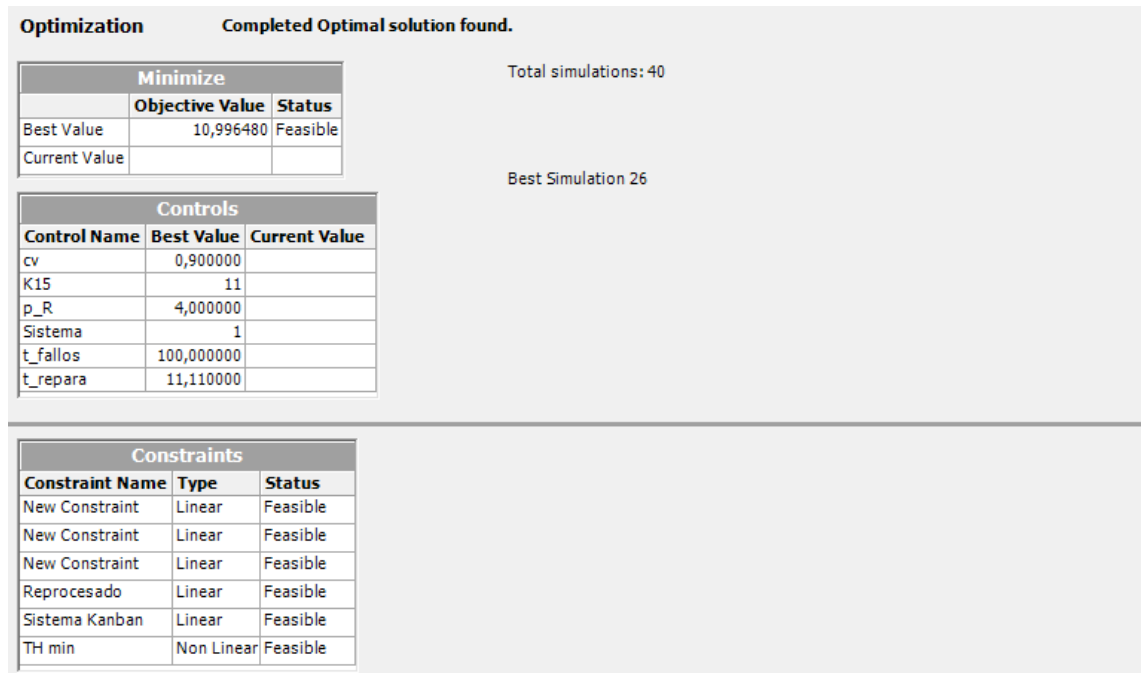


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=70%; p_R=8%; cv=0.1



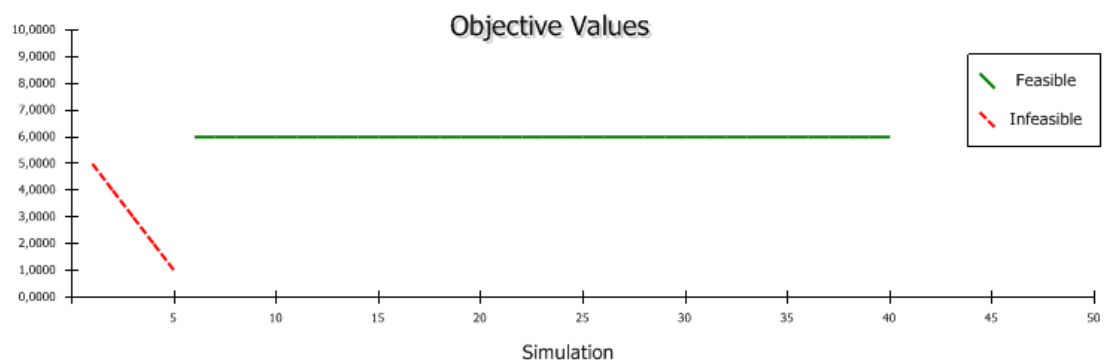
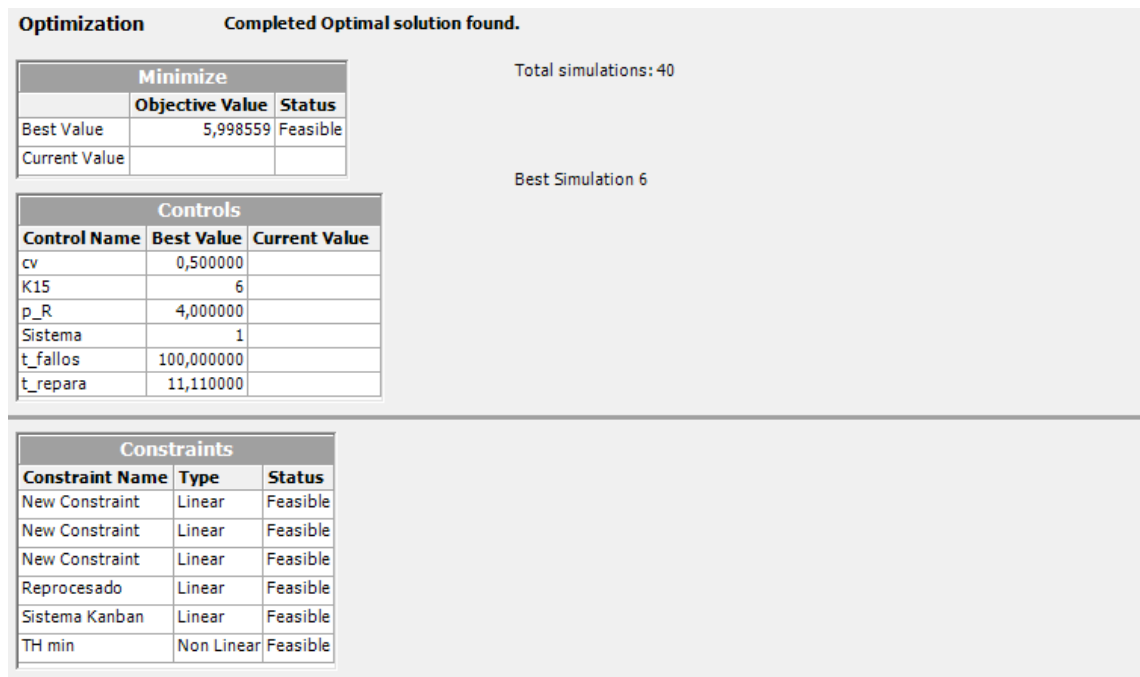


CONWIP PATRÓN DE AVERÍAS TIPOA TH=70%; p_R=4%; cv=0.9



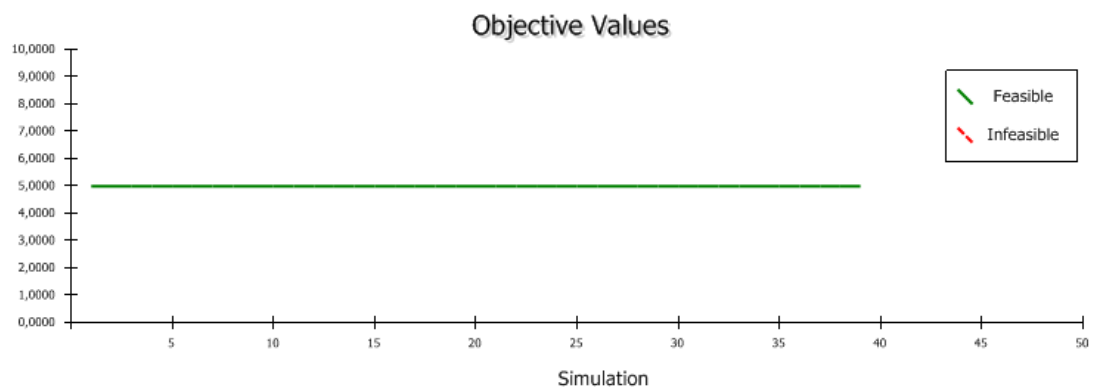
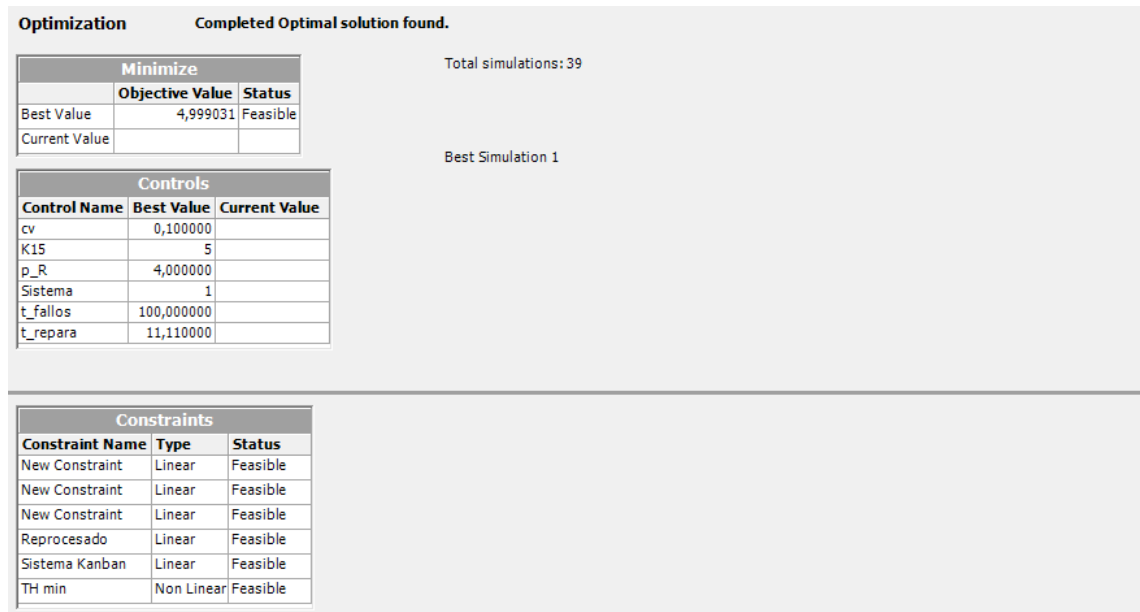


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=70%; p_R=4%; cv=0.5



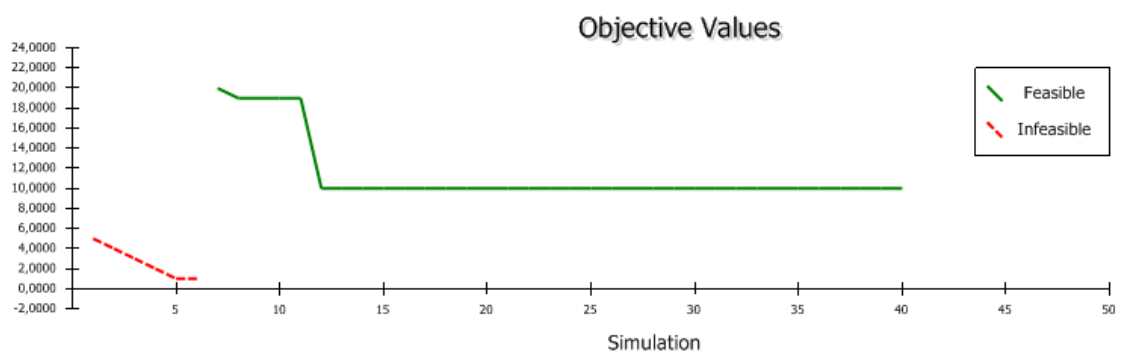
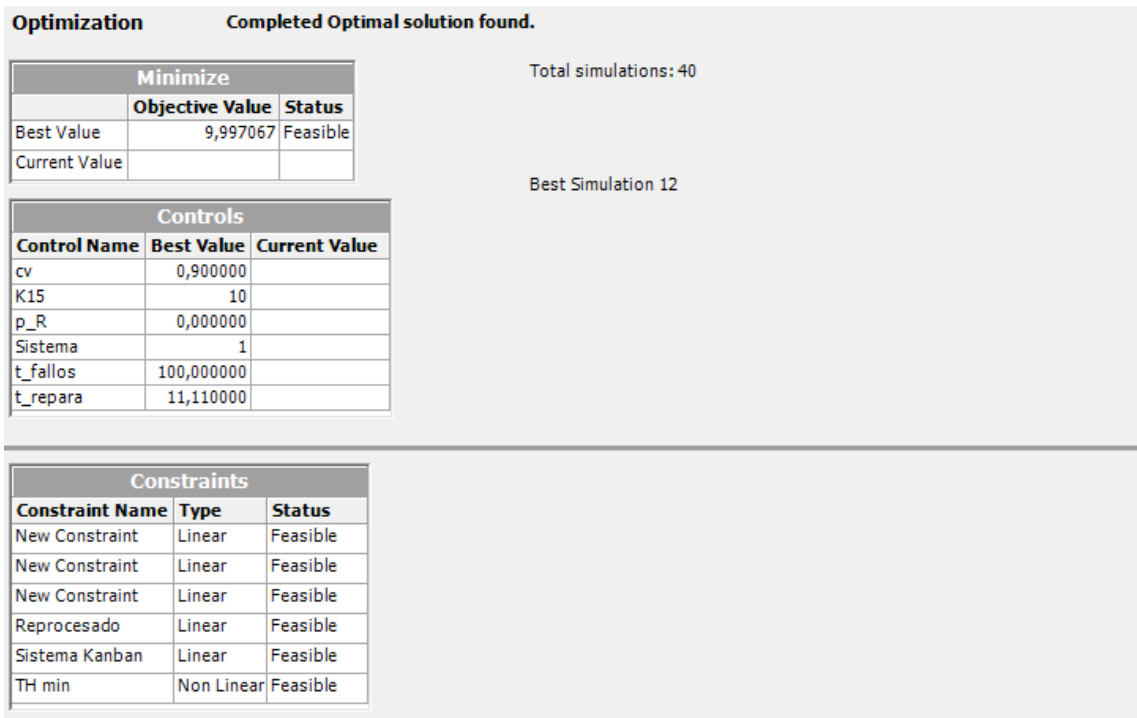


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=70%; p_R=4%; cv=0.1



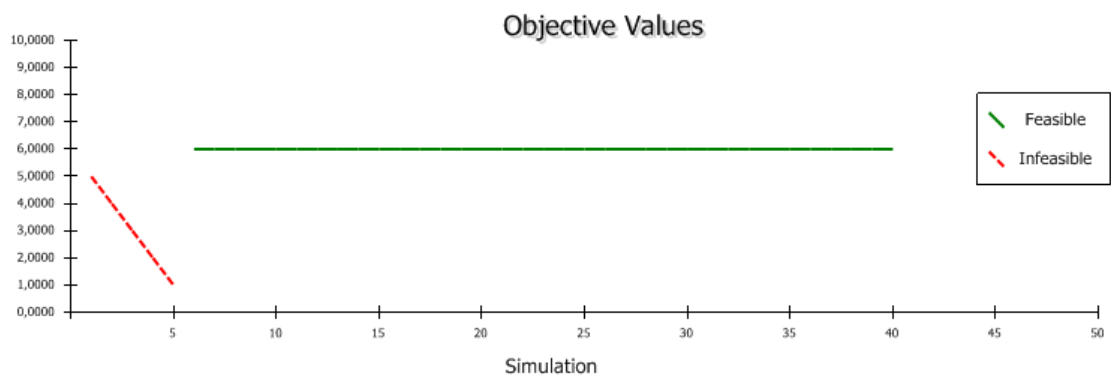
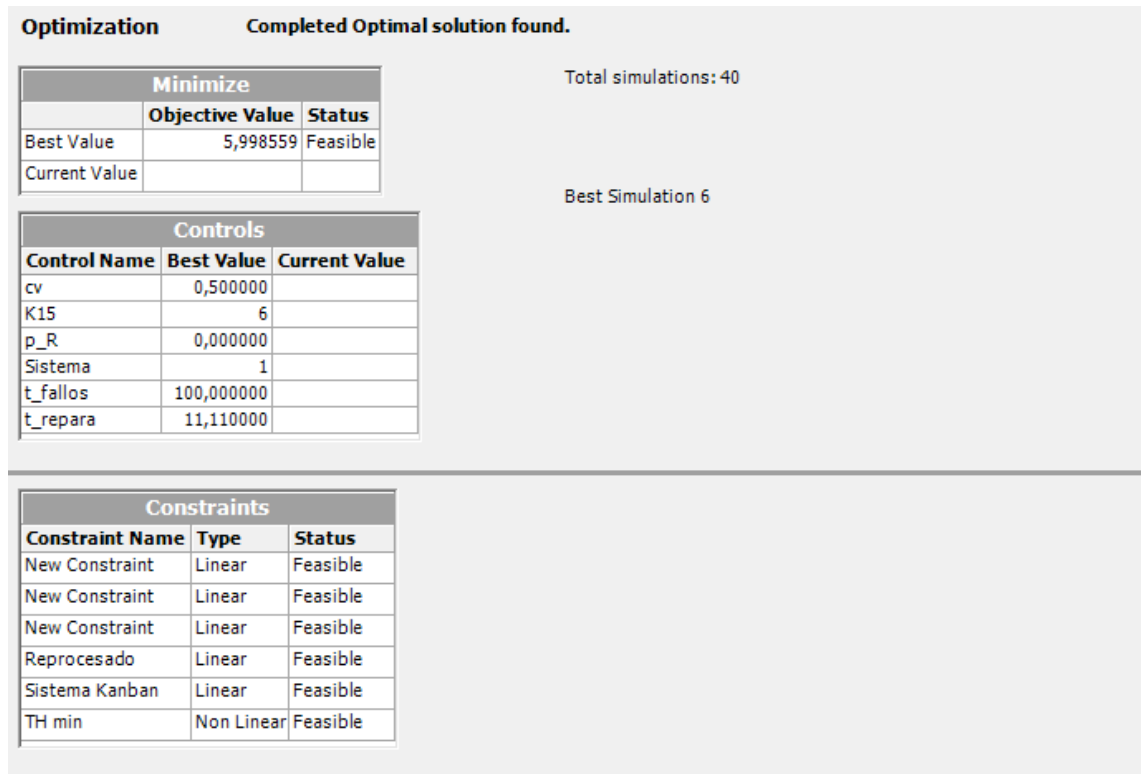


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=70%; p_R=0%; cv=0.9



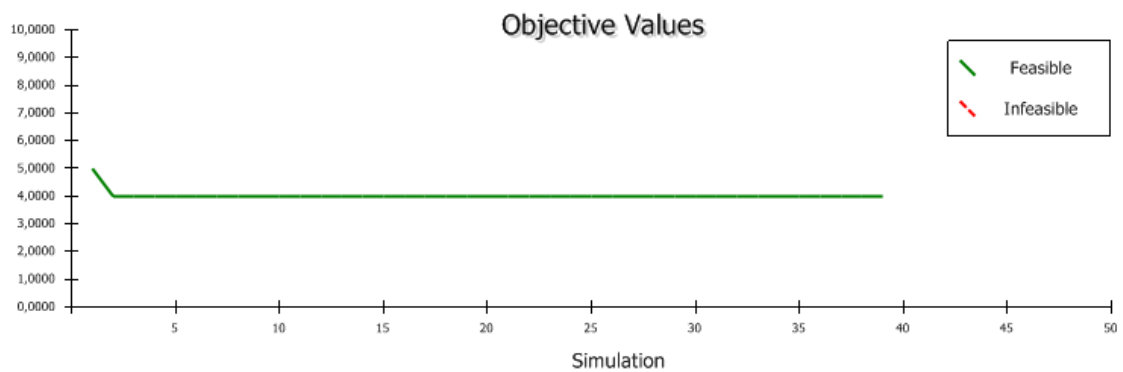
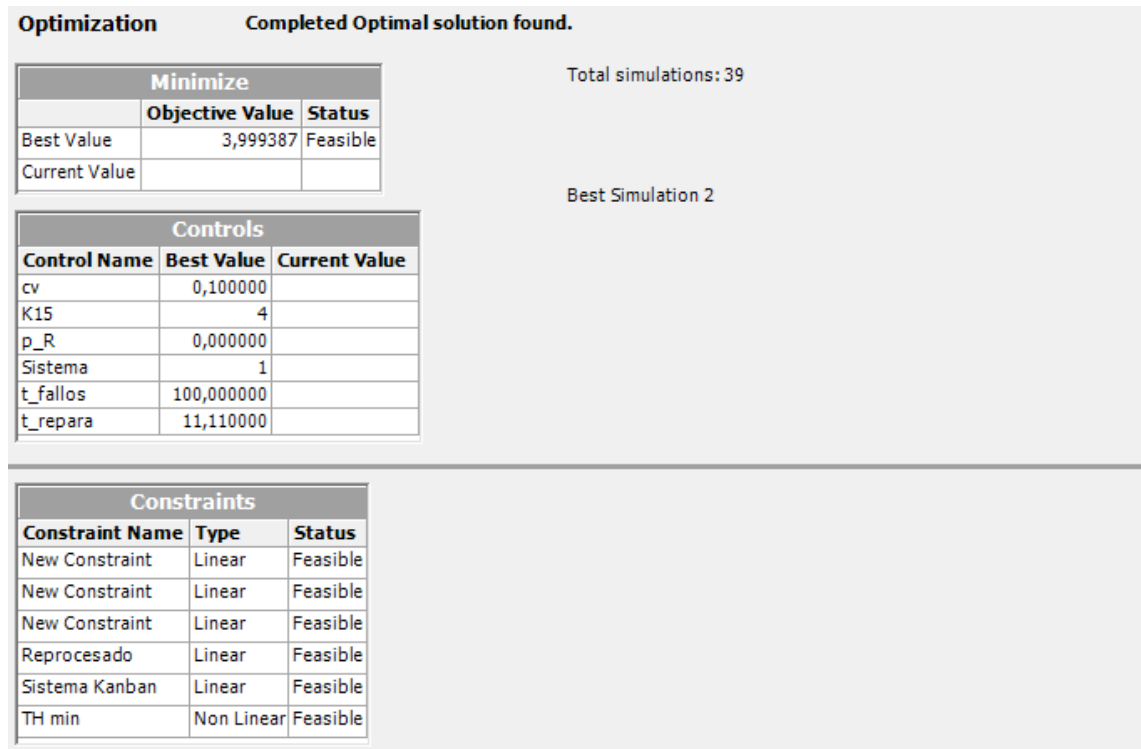


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=70%; p_R=0%; cv=0.5



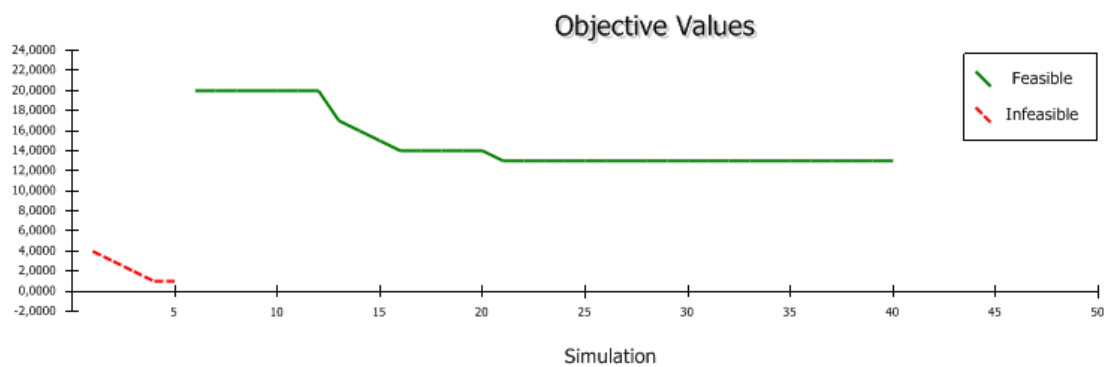
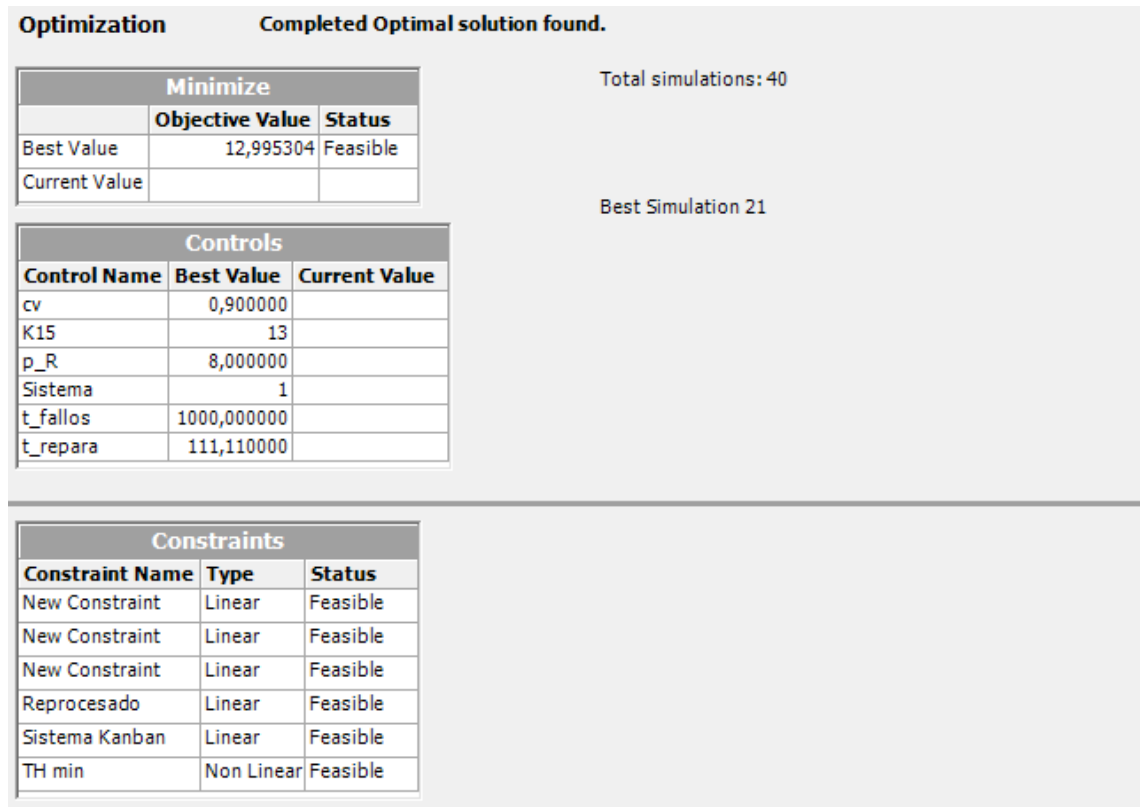


CONWIP PATRÓN DE AVERÍAS TIPOA; TH=70%; p_R=0%; cv=0.1



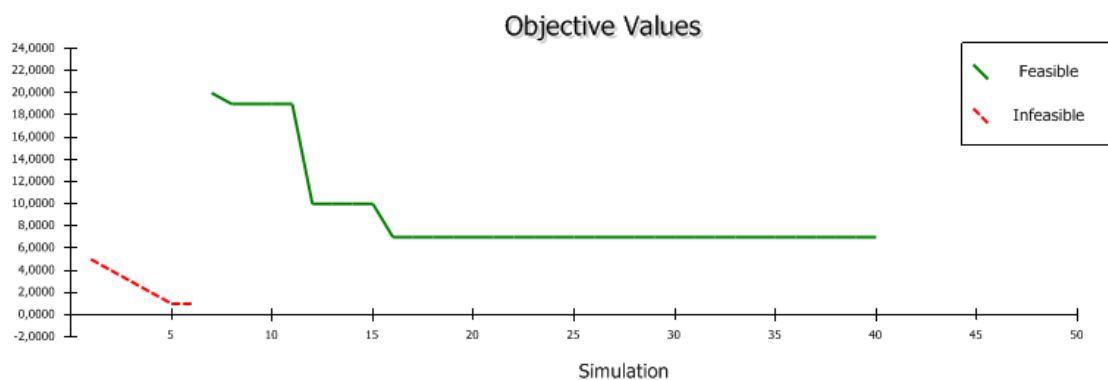
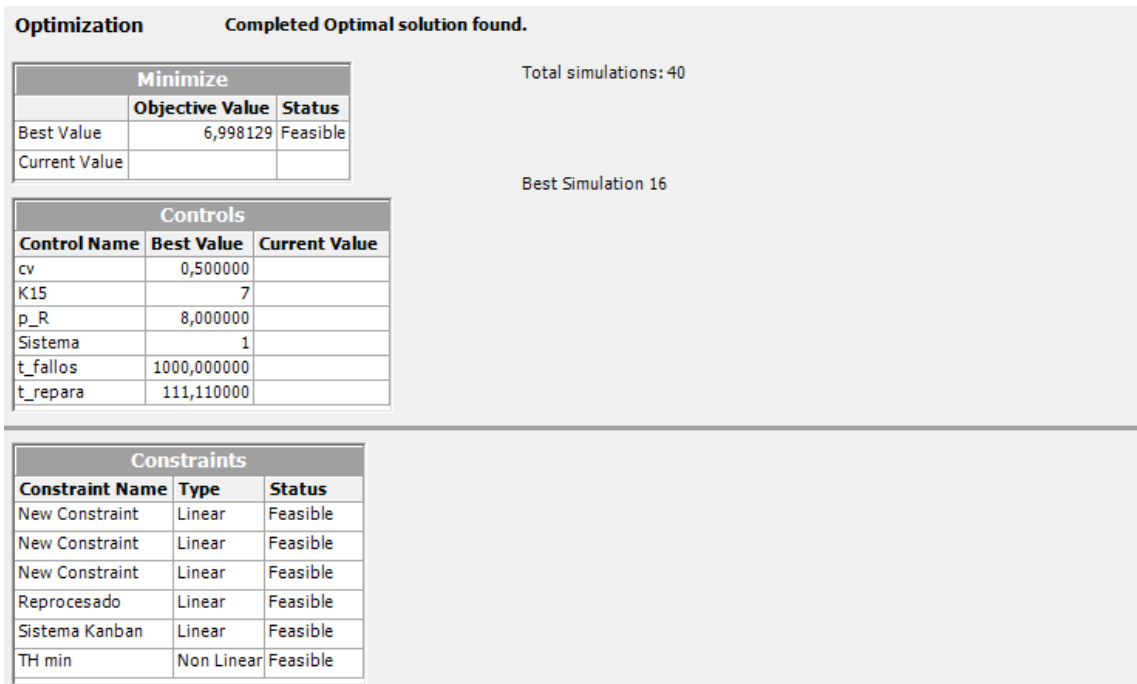


CONWIP PATRÓN DE AVERÍAS TIPOB; TH=70%; p_R=8%; cv=0.9



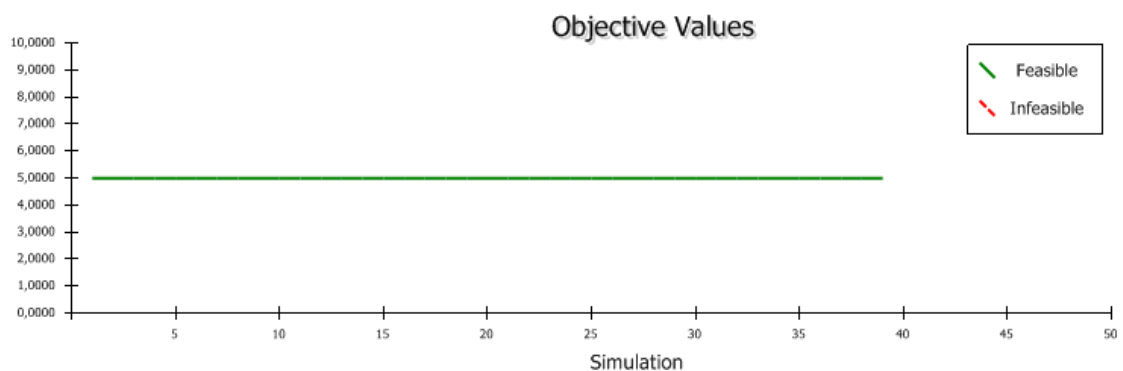
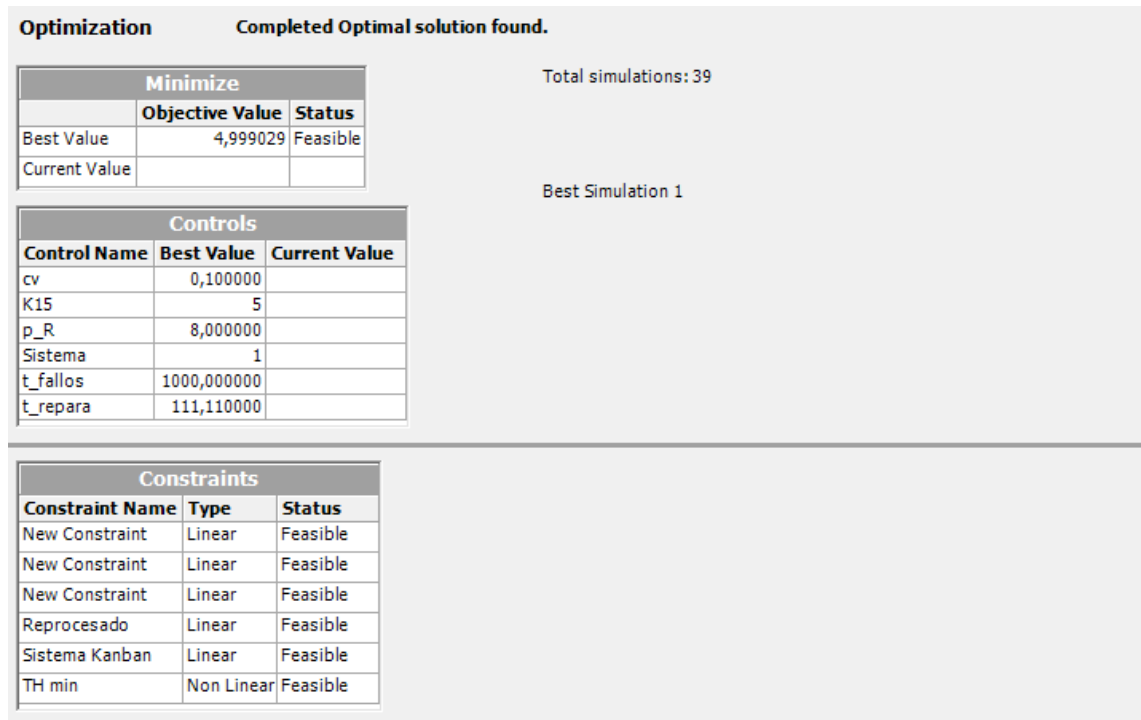


CONWIP PATRÓN DE AVERÍAS TIPOB; TH=70%; p_R=8%; cv=0.5





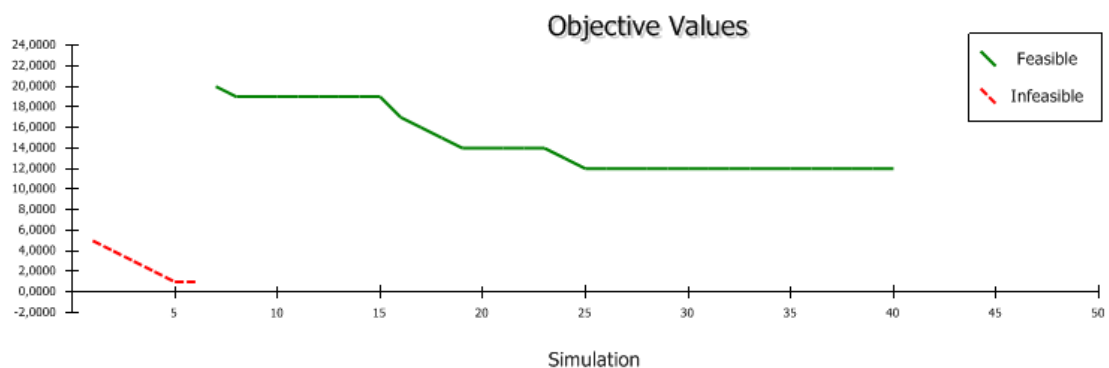
CONWIP PATRÓN DE AVERÍAS TIPOB; TH=70%; p_R=8%; cv=0.1





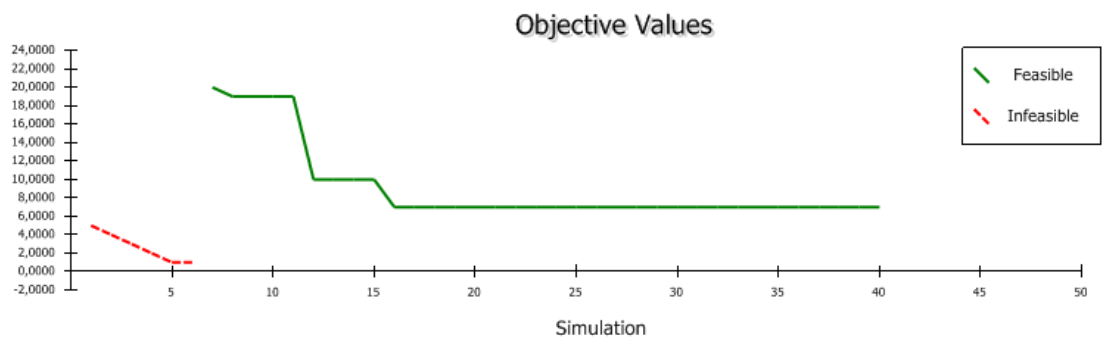
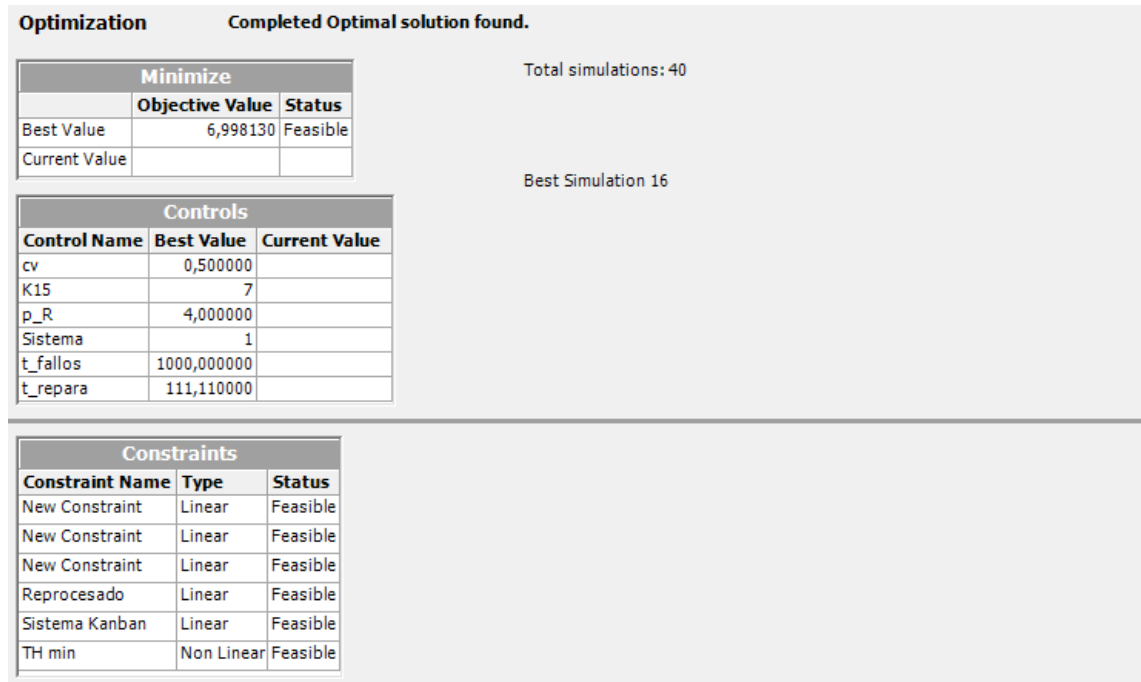
CONWIP PATRÓN DE AVERÍAS TIPOB; TH=70%; p_R=4; cv=0.9

Optimization			Completed Optimal solution found.
Minimize			Total simulations: 40
	Objective Value	Status	
Best Value	11,995926	Feasible	
Current Value			
Controls			Best Simulation 25
Control Name	Best Value	Current Value	
cv	0,900000		
K15	12		
p_R	4,000000		
Sistema	1		
t_fallos	1000,000000		
t_repara	111,110000		
Constraints			
Constraint Name	Type	Status	
New Constraint	Linear	Feasible	
New Constraint	Linear	Feasible	
New Constraint	Linear	Feasible	
Reprocesado	Linear	Feasible	
Sistema Kanban	Linear	Feasible	
TH min	Non Linear	Feasible	



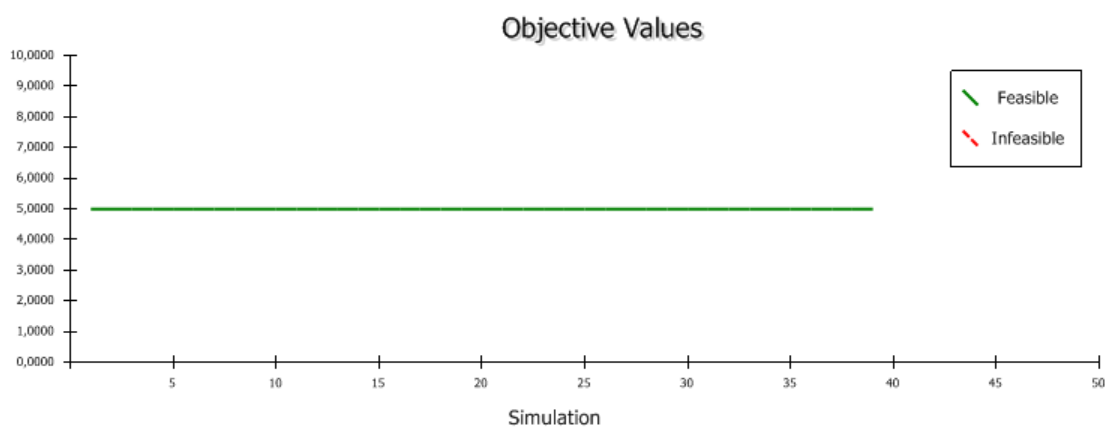
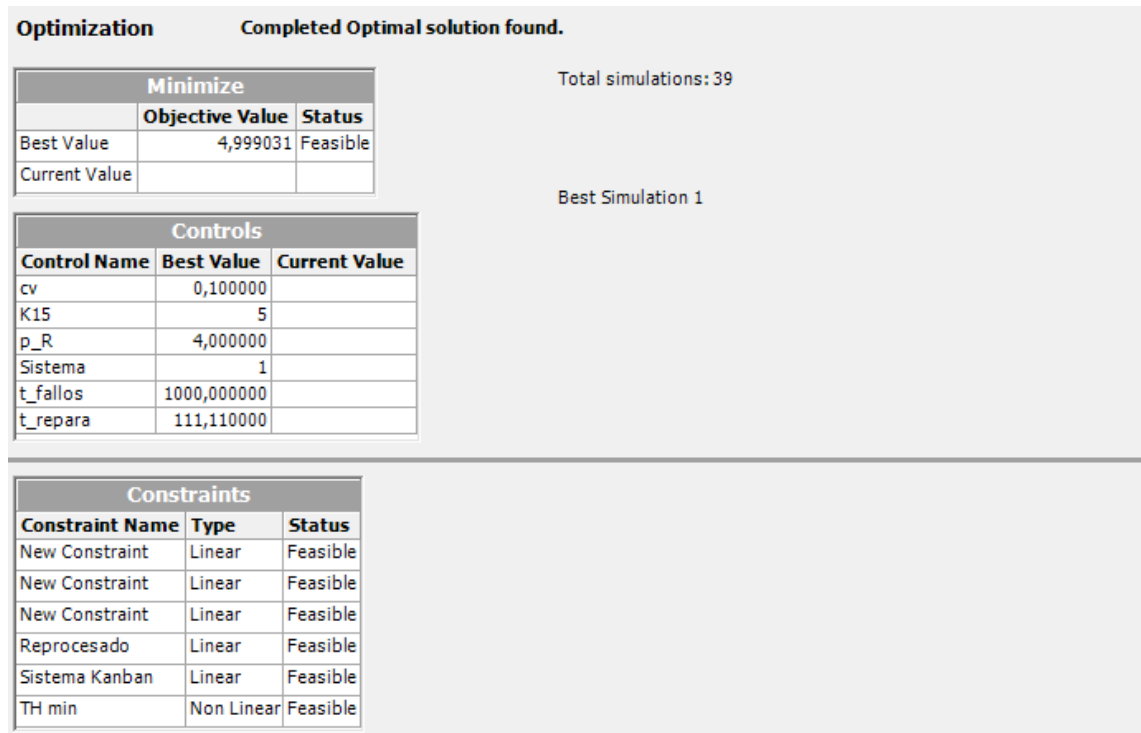


CONWIP PATRÓN DE AVERÍAS TIPOB; TH=70%; p_R=4%; cv=0.5



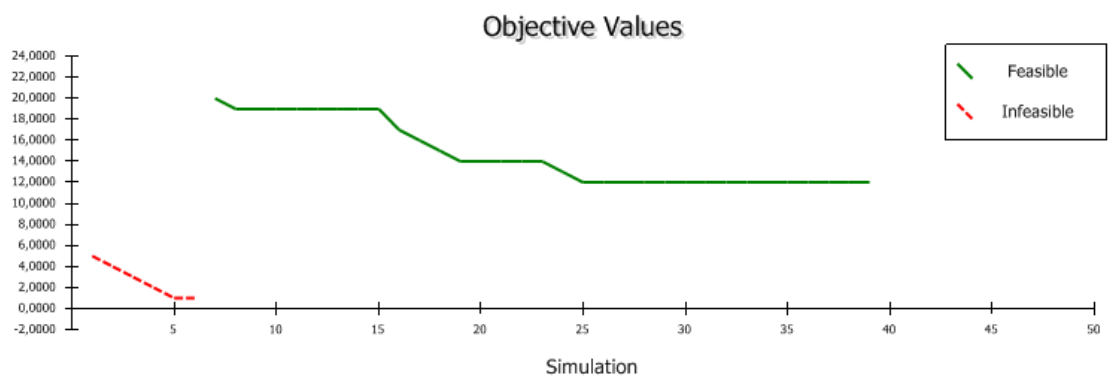
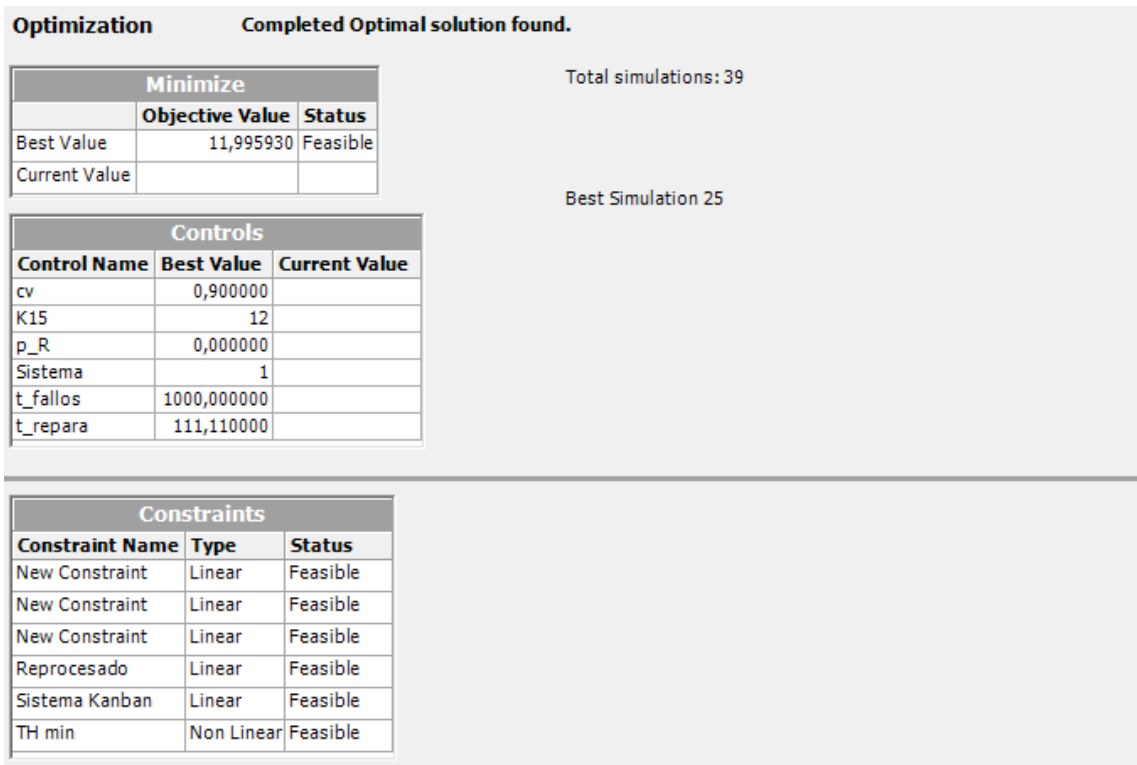


CONWIP PATRÓN DE AVERÍAS TIPOB; TH=70%; p_R=4%; cv=0.1



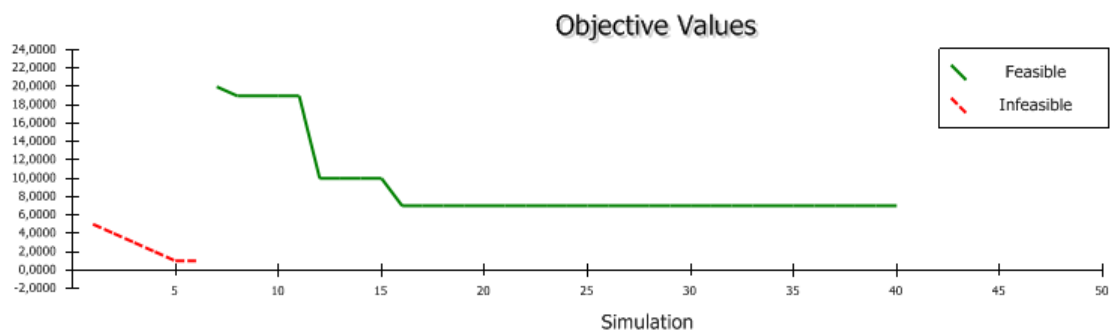
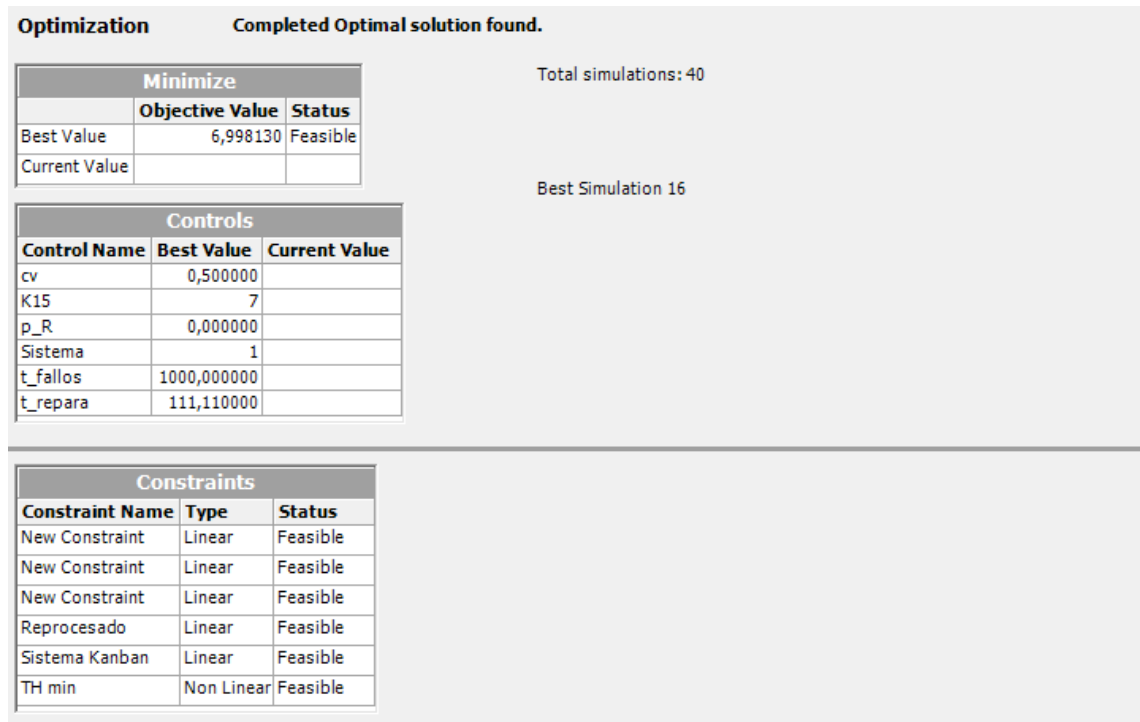


CONWIP PATRÓN DE AVERÍAS TIPOB; TH=70%; p_R=0%; cv=0.9





CONWIP PATRÓN DE AVERÍAS TIPOB; TH=70%; p_R=0%; cv=0.5





CONWIP PATRÓN DE AVERÍAS TIPOB; TH=70%; p_R=0%; cv=0.1

