



Mitigation of interruption and voltage sags for Industrial customer in PEA N3

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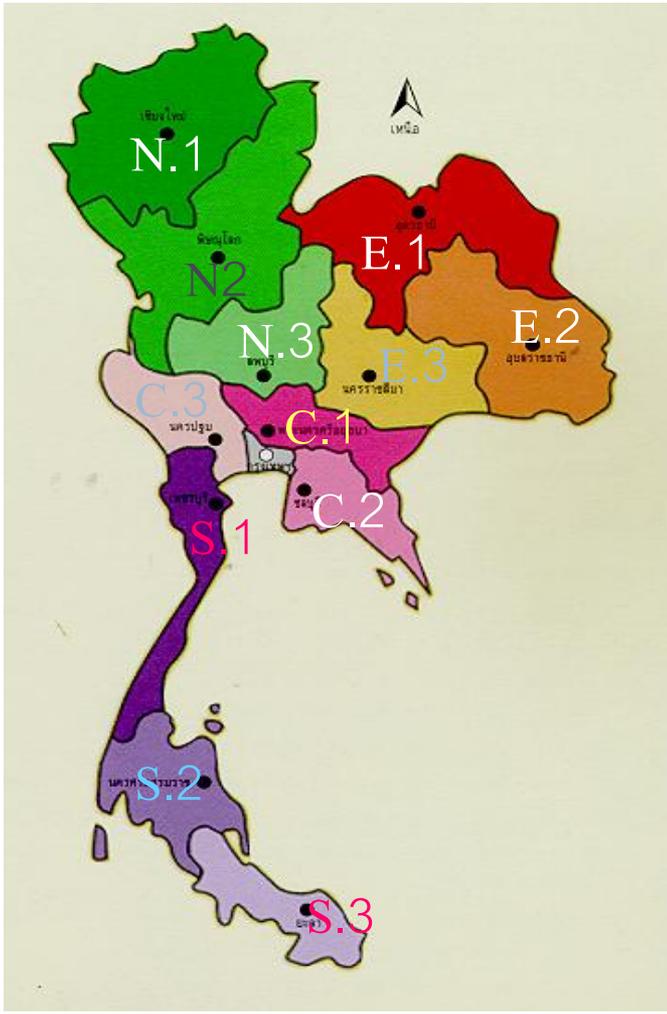
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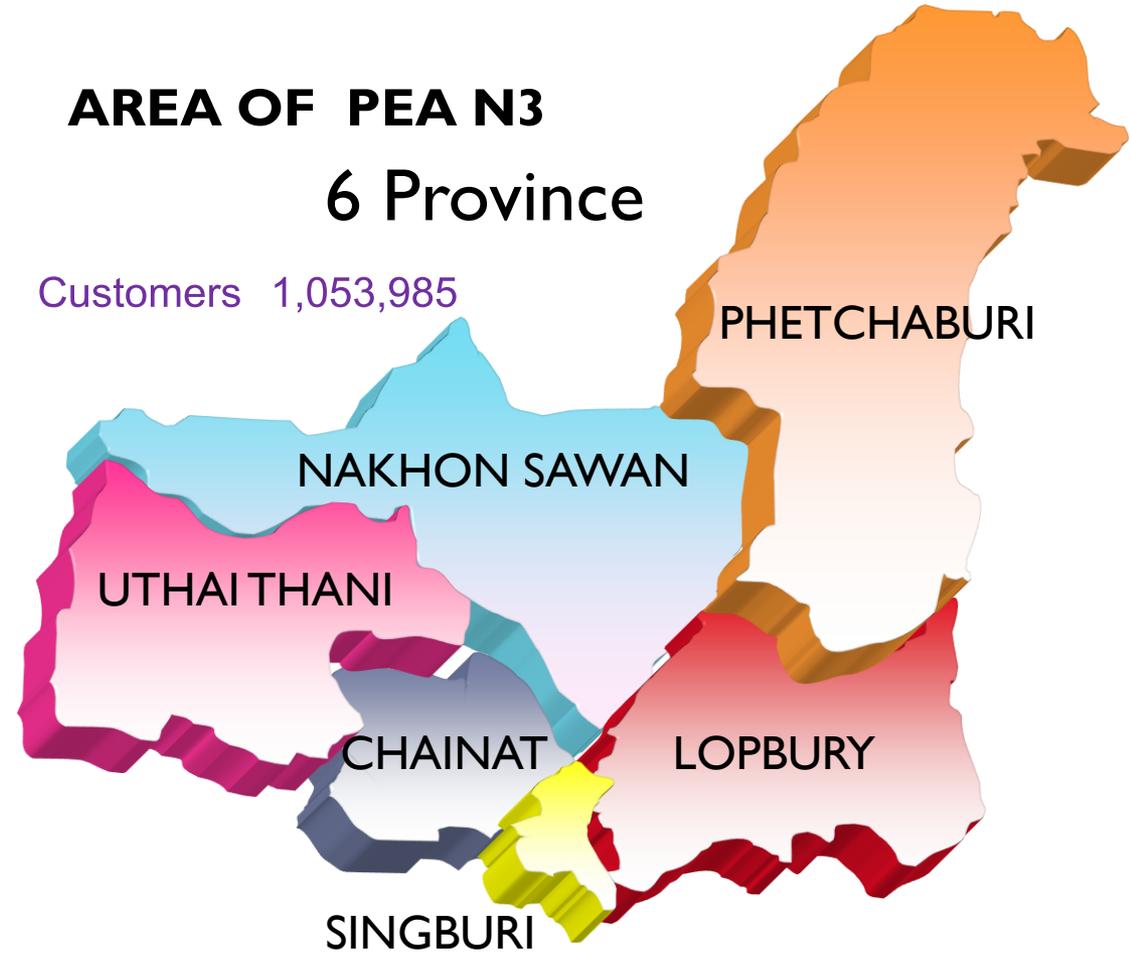


Mitigation of interruption and voltage sags for Industrial customer in PEA N3



AREA OF PEA N3 6 Province

Customers 1,053,985





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syngenta

Case 1

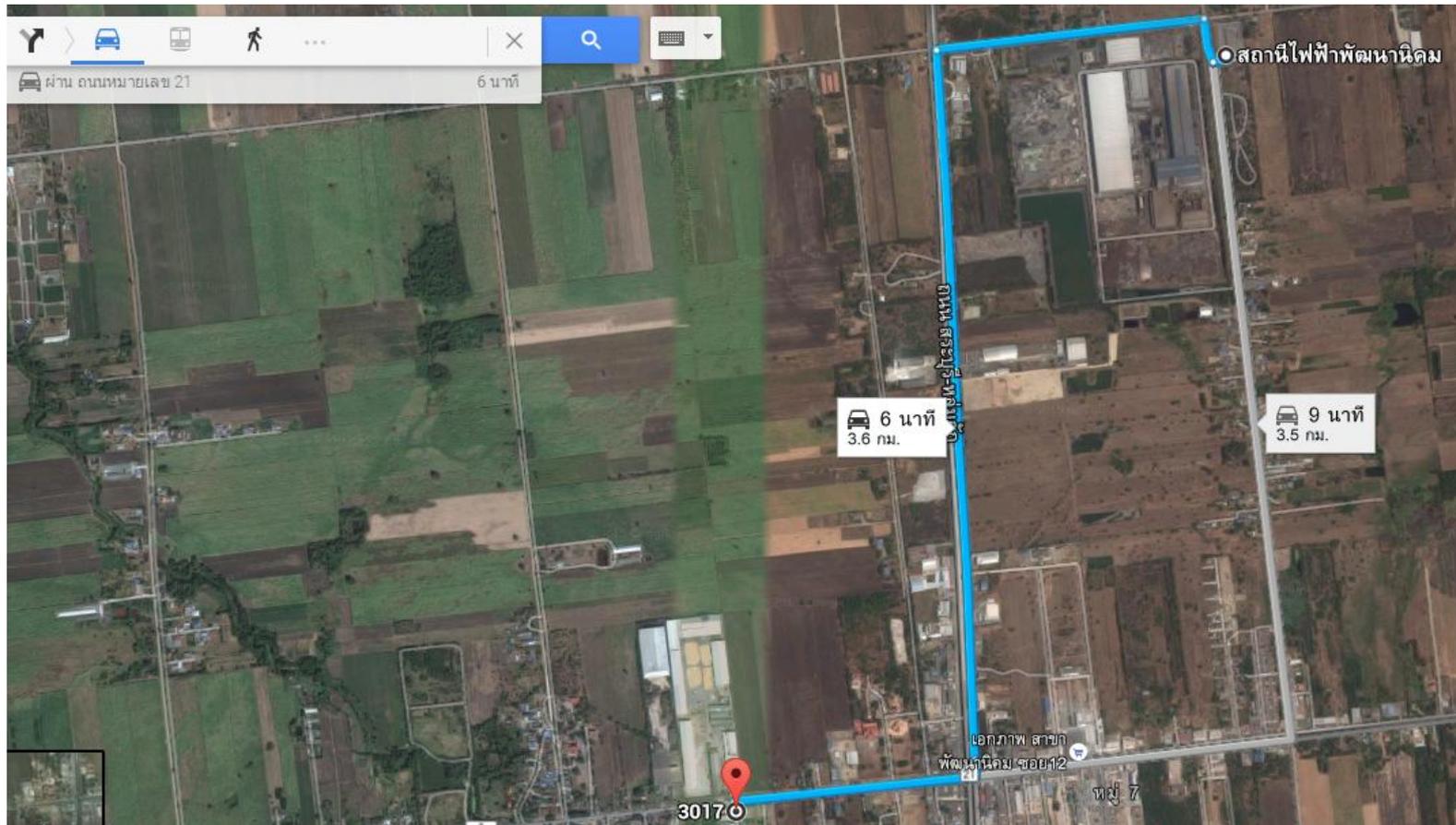


Study and find solutions to mitigation of interruption and voltage sags for Syngenta Seed Company Limited



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The company is located in the Phatananikom District , Lopburi Province





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Problem

when interruption ,under voltage and voltage sag, happens are:

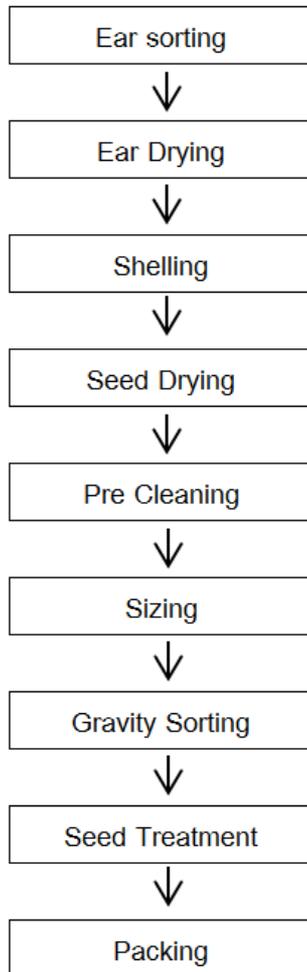
- The Feed Germination percentage in the Bio Safety Cabinet will go wrong, not accordingly to the plan.
- Some amount of corn seeds will fall off to the ground and get contaminated. Those seeds cannot be packed in the process again since there are various types of corn seeds in the line, and to avoid mixing up those different seeds is the highest caution.





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Corn Seeds Production Process





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Feed germinator





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Packing Process



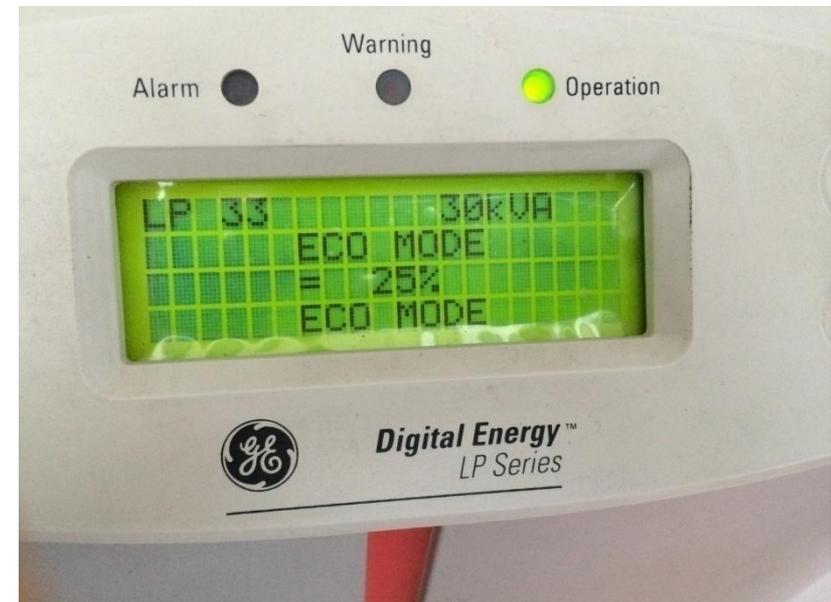


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Solve Problem

The way to solve these problem is to install UPS size 30 kVA For Mitigation of interruption ,Under voltage and voltage sag for sensitive load. UPS can exactly decrease the effect of interruption ,under voltage and voltage sag these problems and it can reserve the power around 30 minutes.

Price of UPS About 600,000 Baht





conclusions

- ▶ UPS can solve the problems from interruption, under voltage and voltage sags (In customer view by 100%)
- ▶ Can prevent equipment and soft ware damage from surge
- ▶ None of corn seeds fall off to the ground and get contaminated get from stopping line process caused by interruption, under voltage and voltage sag
- ▶ increase reliability of the system.

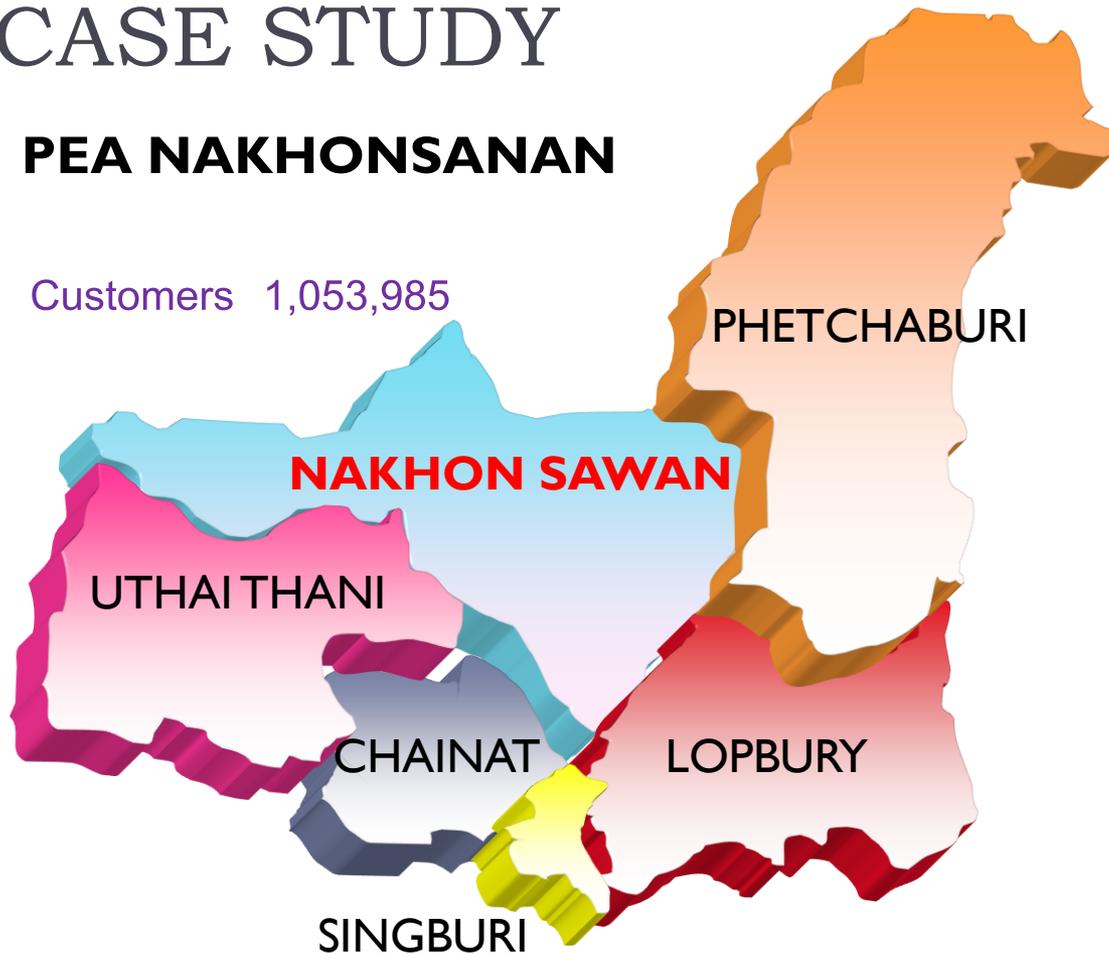




NAXT CASE STUDY

AREA OF PEA NAKHONSANAN

Customers 1,053,985





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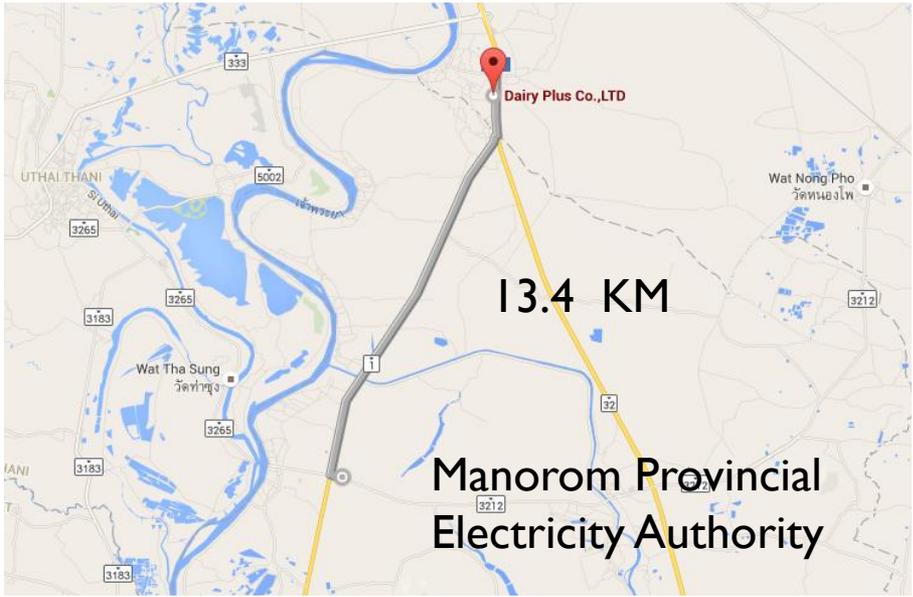
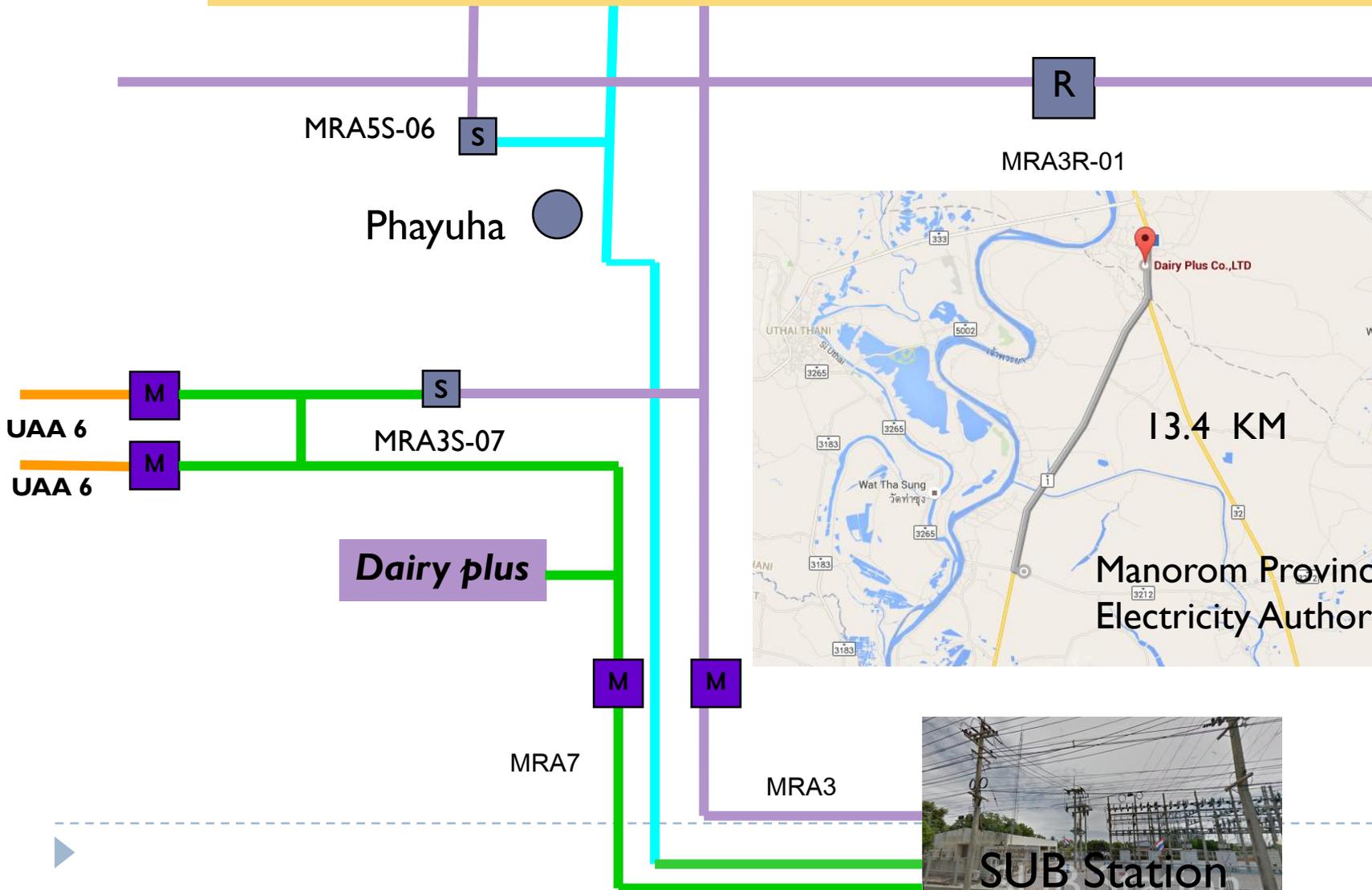
***Dairy plus Fectory (Nakhon Sawan)
99 Moo 7 Phaholyothin Rd. KM 203,
Muanghak , Phayuhakhiri, Nakhon Sawan
60130***



Manufactures and distributes pasteurized dairy product. Its man products are “Dutch Mill drinking yoghurt, “Dutchie” cup yoghurt, “Dutch Mill” fresh milk and “Delight” cultured drinking yoghurt.



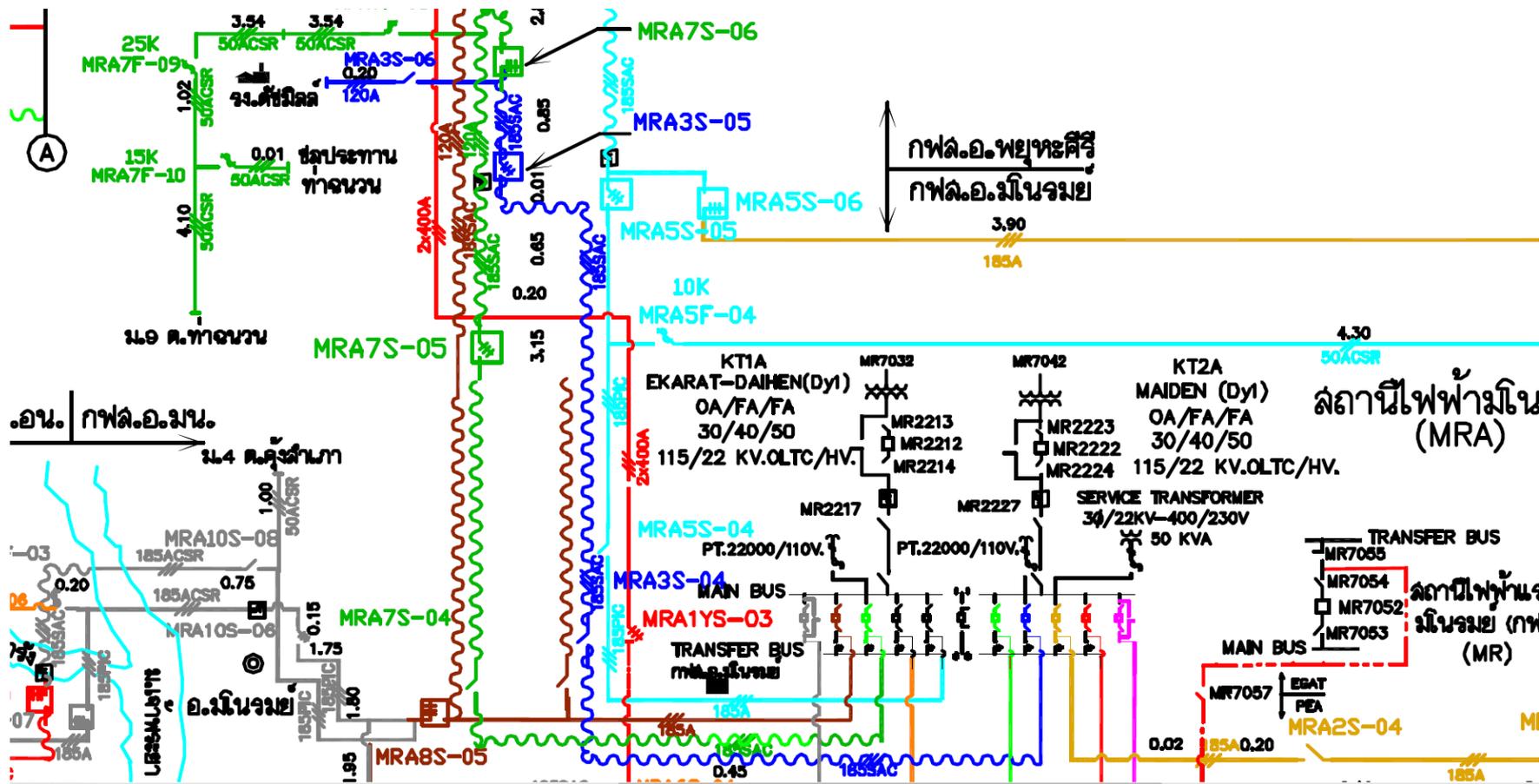
Single line Diagram of Dairy Plus





Problems and causes of Diary Plus

Diagram





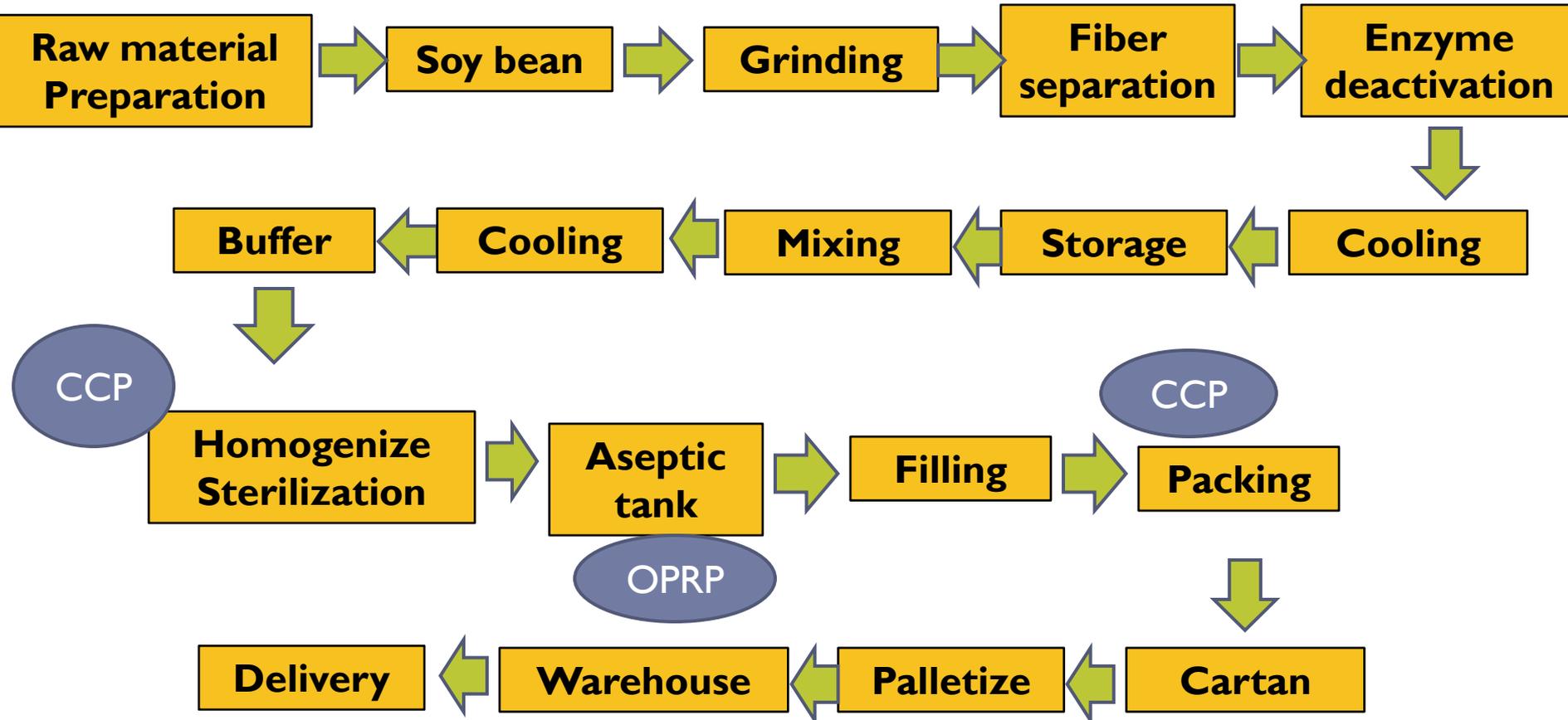
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Statistic of Interruptions and voltage sags for DAIRY PLUS

YEAR	Number of Interruptions and voltage sags			Sum From PEA	Percent (%) year / Last year	Interruption from PEA	
	Power outage		Voltage sag			Outage	Voltage sag
	PEA	Plant					
2010	1	2	39	40	-	2.38%	92.86%
2011	5	6	31	36	90%	11.90%	73.81%
2012	3	7	49	52	144.4%	5.08%	83.05%
2013	7	4	42	49	94.23%	13.21%	79.25%
2014	1	1	40	43	87.76%	6.82%	90.91%
2015	3	8	6	9	29.93%	33.33%	66.67%



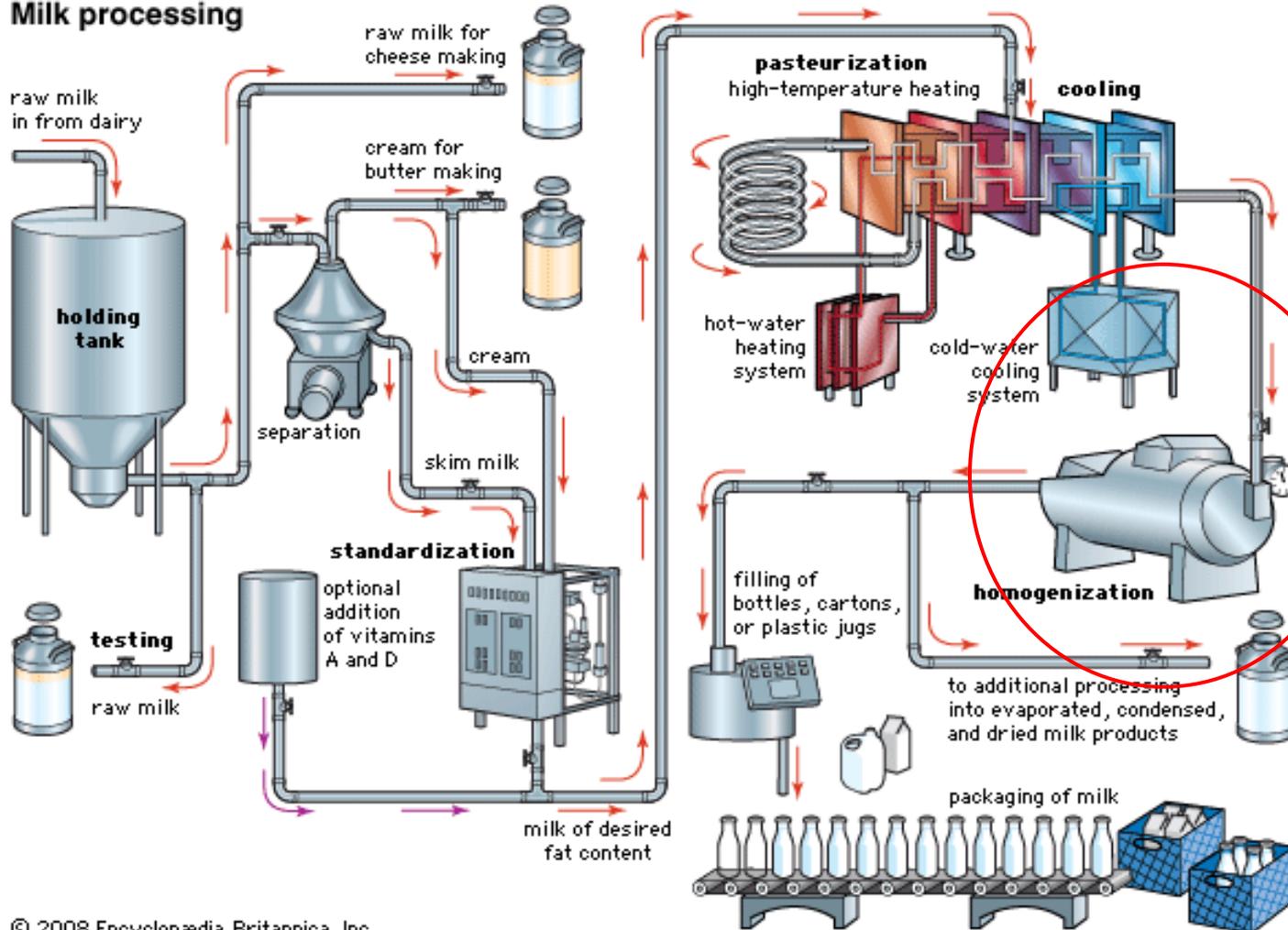
Processing





Issues that affect the Company

Milk processing



Sensitivity Process



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The Operation for mitigation of Interruption and voltage sags by PEA



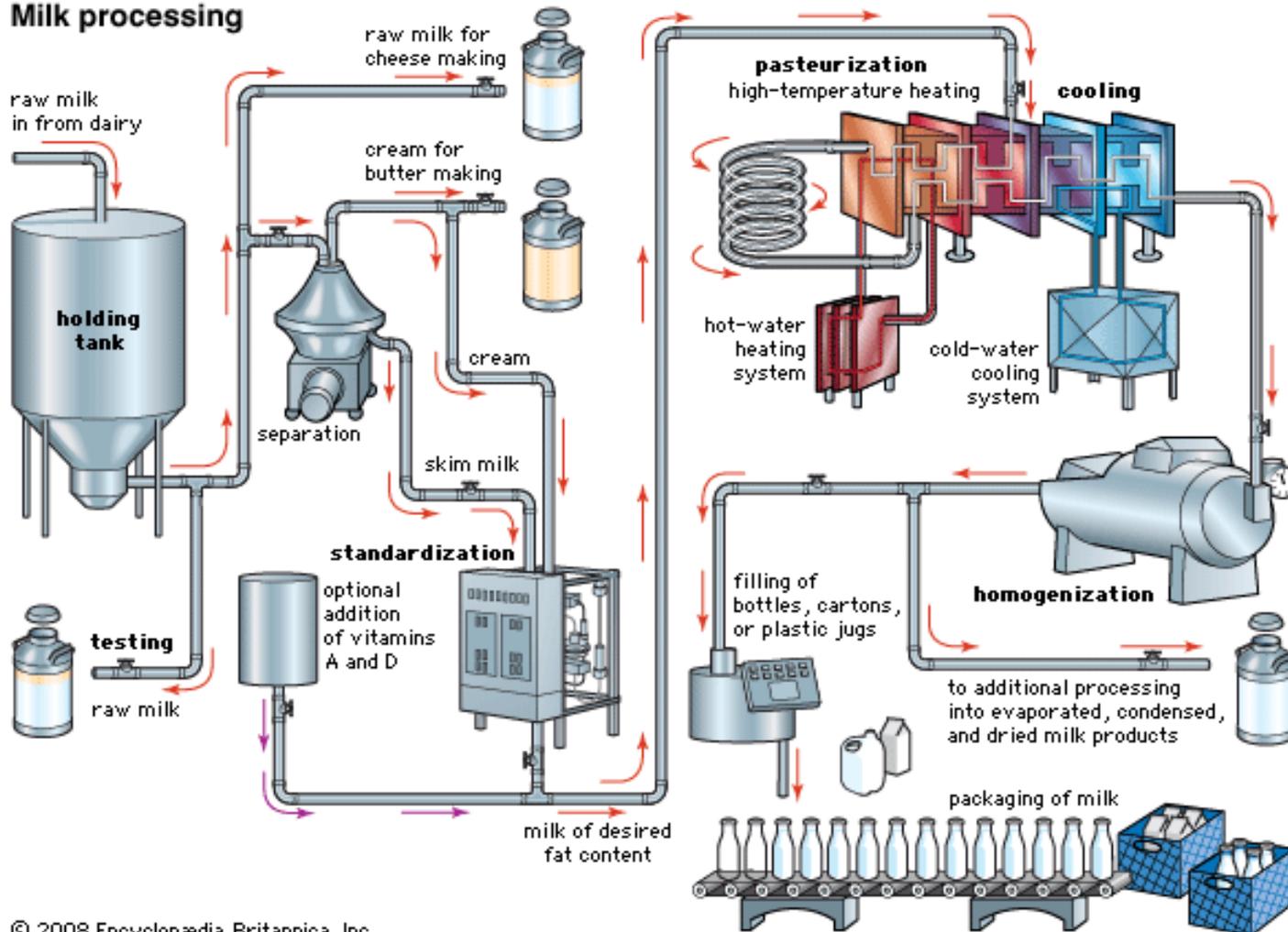
Preventive maintenance
Reducing the number of short-circuit faults





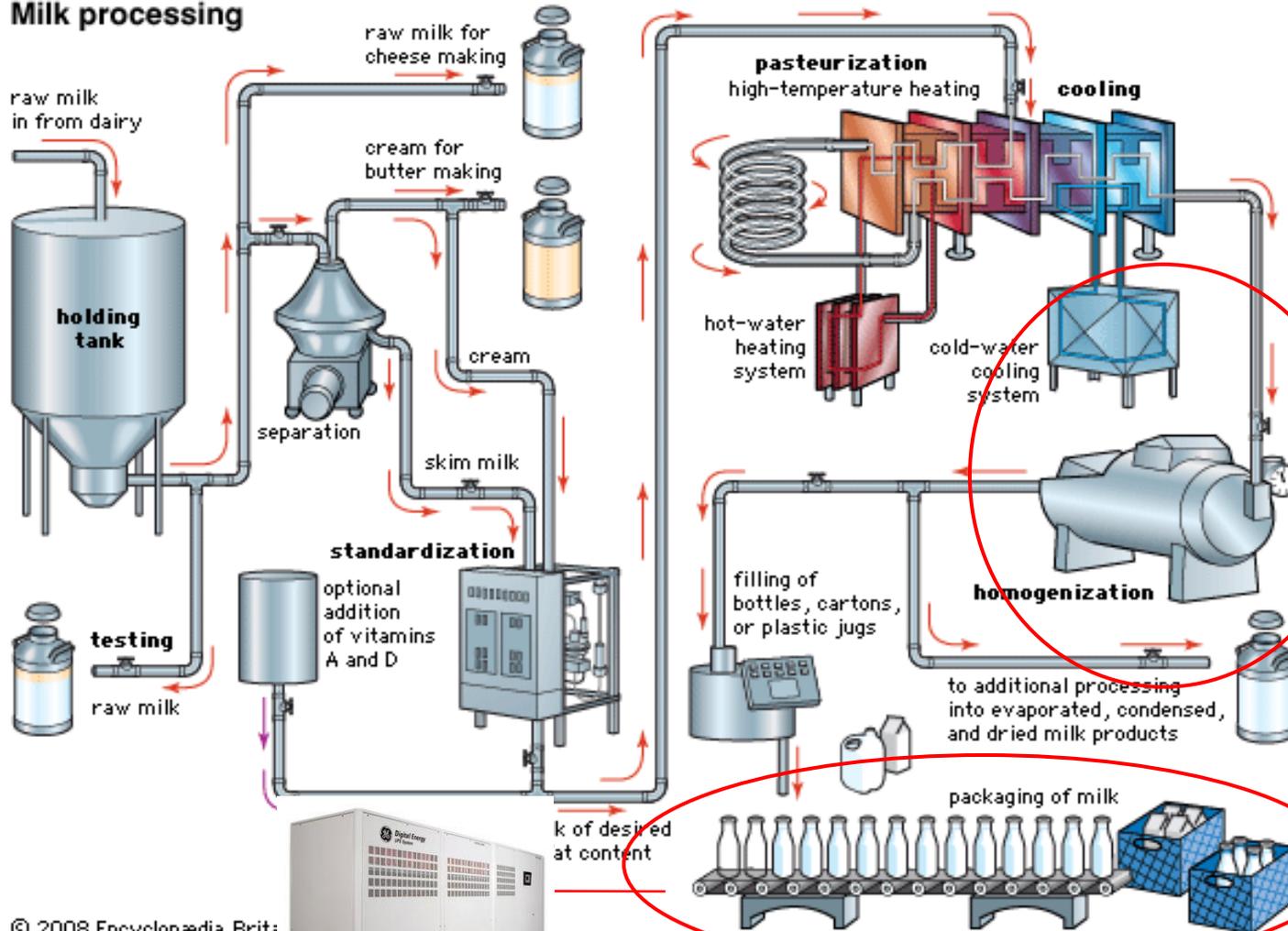
The Operation for mitigation of Interruption and voltage sags by customer

Milk processing





Milk processing



Installation UPS 500 KVA at UHT sterilization machine



GE. Critical Power, SG-500KVA with battery back-up time 5 minutes at Full load P.F 0.8/400KW





conclusions

- UPS can be back up load 1,000 KVA @ full load time 5 min. , to Save milk in processing about 500 Ton , and save time to must cleaning machine about 6 Hour per process breakdown form voltage sags
- Investment of UPS about 20 millions bath
- The company planning to installation UPS at other Line process 2 unit





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**Thank
You!!!**

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