

101, VALLEY FIELD COURT, KOROSHO ROAD, off-Gitanga Road Kobil petrol station, NAIROBI – 00604,



P.O. BOX: 23365

PIN: P 051523207T Contact cellular: 0786403634 / 0736322749 Land Line: 020-5291385

EXECUTIVE SUMMARY - Cheema Spintex turnaround fundamentals					
STATES	IMPACTING FACTOR	STATE OF PROCESS	INFLUENCING PARAMETERS	ACTIONS ENVISAGED	PERFORMANCE GUARANTEES
CURRENT STATES	RF productivity	210 gms/ss	Productivity	NA	
	RF end breakage	2-2.5%			
	Card working performance	Good	Productivity and knitted fabric quality		
	Winding clearer cuts	45-60 cuts/ 100KM			
	Measurable quality	IPI-35-45			

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STATES	IMPACTING FACTOR	STATE OF PROCESS	INFLUENCING PARAMETERS	ACTIONS ENVISAGED	PERFORMANCE GUARANTEES	
TRANSFORMATION MODE	RF productivity	Greige - 240 gms/ss	Contribution - 40% on sale value	Carding optimization to be enhanced through advanced CBM - condition based maintenance systems	Influencing turnaround factors :	TIMELINE - 6 WEEKS
		Melanges - 210 gms/ss		RF augmented maintenance	1. Contribution 40-50%	
	Winding clearing	Augmented for high end knitting applications with 50-60 cuts / 100 KM	High end knitting applications meriting larger turnover volumes and pricing premiums	Statistical controls on processes and establishment of predictive estimations	2. Pricing premiums - 10% on closest competition	
	Measurable quality	IPI - 25-35		Clearing curve optimization and establishment of improvements in the online quality	3. Operating margins - 35%-38% (Gross margins)	

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FINANCIALS	Moratorium	6 months
	WC infusion	3 months
	Leased model for liquidating debt	60-90 months
CAPEX		NO INVESTMENT ENVISAGED FOR 18 MONTHS (JAN 2017-JUNE 2018)

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THE WHITE PAPER ON THE TURNAROUND FUNDAMENTALS –  
CHEEMA SPINTEX, LALRU, MOHALI DISTRICT, PUNJAB, INDIA – *in focus*

*Submitted for management decisions and approvals by:*

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## **1. Current states of the process – plant operations**

1.1. Yarn manufacturing process state is reasonably competent with the given raw material inputs and the constraints of unrealized capacity utilization in the factory operations.

a) Ring spinning productivity levels is significant while maintaining good working conditions and breakage levels of between 2-2.5% (as perceived in the plant round and based on professional judgment).

b) The process parameters in the preparatory are seen to be optimized in the wake of the operating conditions in the ring spinning frame and the reflections therein at the winding stages.



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c) The clearing settings were observed to be optimized to competent levels for the product and the clearer cuts of 45-60 range are perceived to be good thresholds for widespread use of the yarn in the domestic market and with the existing infrastructure of recycled polyester.

d) Energy states in the manufacturing process are high guzzlers as would be expected when the plant is run with less capacity utilization and consequent loading thresholds. The PF in the plant is the key indicator and was observed to be 0.83 in the blow room, 0.68 in the drawing, 0.56 in the simplex and a high of 0.91 even with just about 50% capacity utilization (this being a fairly high PF implying good levels of load optimization within the framework of the constraints).

e) The operating discipline was observed to be high and is reflected in the generic upkeep and house-keeping in the department. The morale of the key personnel in the shop floor was seen to be high – an extremely positive state of affairs in the wake of the challenging business environment. The shop floor personnel were seen to be enthusiastic in discussing technical matters and the knowledge levels were observed to be quite high during the interactions with the cross-functional support teams drawn in from engineering, maintenance and quality. The production team on the shop floor was quick on the elements of the job and the observations lead to positive affirmations on the possibilities of a fast-track turnaround in the financial and product reach perspectives of the company.

1.2. Plant maintenance standards within the shop floor are observed to be excellent in the given infrastructural set-up of the key components of consumable nature within the framework of the machinery in the process line.

a) The technical knowledge and understanding of the technical teams in the realms of mechanical and electrical engineering are competent as evaluated during the discussions.

b) The documentation rigors for the critical maintenance activities in the plant are a testimony for the sincere efforts hitherto made in ensuring optimum working of the operations.

c) The time based maintenance schedules are adhered to and efforts realized for coordinating the activities with the measurable quality are laudable – efforts in the right direction for advanced quality management



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systems and veritable assets that can be leveraged for higher threshold performances as part of the turnaround initiatives.

#### 1.3. The plant infrastructure and state of the process – utilities

- a) The key utilities of compressor and the distribution boards as also the electrical installations within the plant are in good condition and capable of being managed for enhanced production activities.
- b) The flooring around the machinery needs to be insulated for variations in performances caused by vibrations; especially in the ring spinning and winding areas.
- c) The plant layout is of regulatory standards and can facilitate the scaling up of operations.

### 2. Fundamentals of changes for profitability engineering

#### 2.1. Operational changes in the plant

##### a) Blow room and carding area – the key turnaround element

##### i) Raw material dynamics and the needs therein:

i.i. The fused fiber and weak polymer concentrates are high in the recycled fibers; both in the greige and dyed states.

i.ii. Fragility and brittleness of the fibers is attributed to the high concentrates of weak polymers, otherwise known as oligomers and adversely affect the properties in the yarn related to both in-process and downstream knitting applications.

i.iii. The preparation of the raw material for the process is the underlying element of strength in the recycled polyester manufacturing process and calls in for exceptional controls at the cards; usually, way beyond the normal features of regulatory process control techniques to extract the optimized properties.



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i.iv. The judicious extraction of fused and brittle fibers as well as heavy traces of oligomers is dependent on the abrasive shear states in the blow room and card states and shall define the performance thresholds in the upstream yarn processing and the subsequent downstream processes as well.

i.v. Surface tension within the fiber clusters is a vital element of influence in the management of recycled polyester and is the fundamental leveraging point in the extraction of fragile fibers in the carding process and ensuring the right performance in the various stages of yarn manufacturing with implications spilling over to the knitting machine.

This element is of vital importance in consciously accommodating poorer and necessarily cheaper quality of raw material- an essential ingredient of the turnaround story in any yarn engineering initiative.

ii) Parametric and structural changes recommended for the blow room management

ii.i. The surface tension variations within the fiber substrates would require an intense threshing of the clusters with aids through strong suction to enable the right leveraging and extract the weaker fibers from the mainstream process. Hence, the blow room line should be restored to the original cotton set-up and threshing of clusters resorted to with high intensity to achieve the stated objectives in preparing the raw material adequately and insulate the process from the influences of generic weakness in the key properties attributed to the recycled process.

ii.ii. The air draft across the ducts in the blow room need to be increased to ensure a differential separation of weaker fibers from the mainstream clusters riding on high variations in surface tensions in the fiber clusters. This can be done through the enhancement of the suction speeds across the line at all available points.

ii.iii. The grams per meter adjustments in the chute need to be increased to levels near the maximum possibilities to ensure consolidation of the fiber clusters after the threshing and the air draft to complete the extraction process of the weaker polymer-ridden fibers from the bulk clusters. This consolidation shall help bring in homogeneity of the properties in the array and facilitate carding consistency.



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ii.iv. The carding management would require the following stages to bring in elevated thresholds:

AREA	Phase configuration	Measured Load	Amperes			Voltage		
		Kw-measured - resultant	Mean	Peak	Multiple - peak current	Line Voltage	Peak Voltage	Multiple - peak voltage
BLOWROOM	R	45	73	155	2.12	419	598	1.43
	Y	42	56	145	2.59	420	598	1.42
	B	41	69	173	2.51	422	601	1.42
		10%	25%	18%	19%	1%	1%	0%
CARD-CYLINDER DRIVES	R	38	45	105	2.33	419	598	1.43
	Y	35	55	95	1.73	420	598	1.42
	B	39	62	133	2.15	422	601	1.42
		11%	31%	36%	28%	1%	1%	0%



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AREA	Phase configuration	Core Energy Analysis				
		Reactive Power (Kw)	Inductive Power (Kw)	PF	Cos j	Phase Angle in degrees
BLOWROOM	R	45.92	30.59	0.55	0.288	73.3
	Y	43.06	23.52	0.48	0.977	12.3
	B	51.62	29.12	0.49	0.672	47.8
		19%	24%	15%	103%	128%
CARD-CYLINDER DRIVES	R	31.11	18.86	0.52	0.355	69.2
	Y	28.21	23.10	0.63	0.472	61.8
	B	39.69	26.16	0.55	0.552	56.5
		37%	32%	21%	42%	21%

AREA	Phase configuration	Harmonics Analysis							
		H1		H3		H5		H7	
		Amperes	THD %	Amperes	THD %	Amperes	THD %	Amperes	THD %
BLOWROOM	R	73	25.5	7.3	27.2	3.65	26.2	0.365	23.9
	Y	56	22.8	5.6	25.5	2.8	24.7	0.28	25.2
	B	69	23.1	6.9	23.8	3.45	25.5	0.345	24.3
		25%	12%	25%	13%	25%	6%	25%	5%
CARD-CYLINDER DRIVES	R	45	25.5	4.5	27.2	2.25	26.2	0.225	23.9
	Y	55	22.8	5.5	25.5	2.75	24.7	0.275	25.2
	B	62	23.1	6.2	23.8	3.1	25.5	0.31	24.3
		31%	12%	31%	13%	31%	6%	31%	5%

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#### NOTES ON ENERGY DERIVATIVES:

- a) The analysis for energy needs to be all-encompassing on the key fundamentals as illustrated in the charts.
- b) The drive quality is fundamental in ensuring mechanical consistency – of vital importance in the scheme of things for the yarn manufacturing process.
- c) Harmonics in the context of non-linear drives in the textile processes is a much ignored paradigm causing immense wear and tear in the cables and wiring quality owing to thermal stresses impacted by high CF- crest factor; essentially a multiple of peak and mean currents.

Controls on the basics of energy inputs as illustrated in the chart shall bring in major savings in the factory.

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MC NO:	Card Quality - Mechanical										
CARD-11	Gauge position	LATERAL POSITION OF THE CARD : (LHS to RHS)						Gradient	Wire Profile (WP) function	Fiber Friction (FF) function	Wire sharpness (WS) function
		A	B	C	D	E	F				
	P <sub>1</sub>	37	39	42.5	43.2	43.4	36.2	7.2	16.59%	-3.93%	-4.42%
	P <sub>2</sub>	39.1	39.9	40.3	41.4	43.3	40.1	4.2	9.70%	-4.23%	-5.47%
	P <sub>3</sub>	34.7	36.3	41.4	40.7	39.8	41.5	6.8	16.39%	-8.70%	-12.80%
	P <sub>4</sub>	39.2	38.9	43.3	41.9	42.2	37.9	5.4	12.47%	-4.19%	-2.47%
	P <sub>5</sub>	38.4	40.3	41.1	40.8	42.3	40.1	3.9	9.22%	-6.66%	-4.56%

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	Card Quality - Mechanical										
	Gauge position	LATERAL POSITION OF THE CARD : (LHS to RHS)						Gradient	Wire Profile (WP) function	Fiber Friction (FF) function	Wire sharpness (WS) function
		A	B	C	D	E	F				
<b>CARD-12</b>	P <sub>1</sub>	35	37.4	41.2	40.7	40.7	40.2	6.2	15.05%	-9.39%	-10.51%
	P <sub>2</sub>	36.8	38.5	40.8	42.2	43.3	39.7	6.5	15.01%	-4.22%	-9.57%
	P <sub>3</sub>	37.1	35.9	42.1	41.5	39.8	36.4	6.2	14.73%	-7.54%	-4.16%
	P <sub>4</sub>	35.9	37.6	43.3	43.3	36.8	33.7	9.6	22.17%	-4.57%	4.03%
	P <sub>5</sub>	39.2	39.2	40.7	42.9	42.3	34.8	8.1	18.88%	-5.26%	1.63%

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CARD-13	Card Quality - Mechanical										
	Gauge position	LATERAL POSITION OF THE CARD : (LHS to RHS)						Gradient	Wire Profile (WP) function	Fiber Friction (FF) function	Wire sharpness (WS) function
		A	B	C	D	E	F				
	P <sub>1</sub>	36.5	39	42.5	43.2	43.4	36.2	7.2	16.59%	-3.93%	-5.03%
	P <sub>2</sub>	37.3	39.9	40.3	41.4	43.3	40.1	6	13.86%	-4.23%	-7.71%
	P <sub>3</sub>	37.8	36.3	41.4	40.7	39.8	41.5	5.2	12.53%	-8.70%	-8.94%
	P <sub>4</sub>	38.4	38.9	43.3	41.9	42.2	37.9	5.4	12.47%	-4.21%	-3.47%
	P <sub>5</sub>	37.3	40.3	41.1	40.8	42.3	40.1	5	11.82%	-6.66%	-5.92%

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CARD-14	Card Quality - Mechanical										
	Gauge position	LATERAL POSITION OF THE CARD : (LHS to RHS)						Gradient	Wire Profile (WP) function	Fiber Friction (FF) function	Wire sharpness (WS) function
		A	B	C	D	E	F				
	P <sub>1</sub>	37	39	42.5	43.2	43.4	36.2	7.2	16.59%	-3.93%	-4.42%
	P <sub>2</sub>	39.1	39.9	40.3	41.4	43.3	40.1	4.2	9.70%	-4.23%	-5.47%
	P <sub>3</sub>	34.7	36.3	40.7	42.3	41.1	39.5	7.6	17.97%	-6.73%	-11.97%
	P <sub>4</sub>	39.2	38.9	43.3	37.7	38.2	33.6	9.7	22.40%	-4.41%	8.17%
P <sub>5</sub>	38.4	40.3	39.6	40.8	42.3	38.3	4	9.46%	-6.76%	-2.38%	

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	Card Quality - Mechanical										
	Gauge position	LATERAL POSITION OF THE CARD : (LHS to RHS)						Gradient	Wire Profile (WP) function	Fiber Friction (FF) function	Wire sharpness (WS) function
		A	B	C	D	E	F				
<b>CARD-15</b>	P <sub>1</sub>	38.4	41.3	42.5	42.9	43.4	37.3	6.1	14.06%	-3.82%	-1.19%
	P <sub>2</sub>	38.6	42.2	41.3	41.4	43.3	36.9	6.4	14.78%	-4.11%	0.73%
	P <sub>3</sub>	37.8	41.1	42.3	41.1	40.2	39.9	4.5	10.64%	-6.64%	-1.48%
	P <sub>4</sub>	39.2	38.9	43.3	41.9	42.2	36.8	6.5	15.01%	-4.19%	-1.11%
	P <sub>5</sub>	38.4	40.3	43.3	41.9	42.3	41.1	4.9	11.32%	-4.10%	-5.66%
									Profile consistency index	Fiber process consistency index	Wire sharpness consistency index
									1.31	0.31	2.33





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#### NOTES ON MECHANICAL QUALITY:

- a) The wires, relative gauges in the dynamic mode in the carding zones and the fundamental properties of the fibers being processed shall define the thermometry standards within the card and define the performances within a given infrastructure.
- b) The card consistency indices are statistical inferences drawn on the between card variations – an important parameter that determines the quality and productivity consistency in the plant.
- c) The maintenance team would be required to work on establishing high performance consistency as measured by the indices; greater the values, poorer is the performance and lower indices imply stronger performances.

#### DERIVATIVES ON THE IMPLEMENTATION OF THE MECHANICAL QUALITY INDICES:

- a) Higher lifecycles of the critical components thereby reducing the costs of maintenance factored in the manufacturing elements.
- b) Fundamentals of cross-functional intervention in managing the card and the blow room are visualized within the framework of quantified mechanical performance indices thereby improving the accountability factors in the shop floor.
- c) The singular capacities in the plant to process inferior raw material with higher operating efficiencies shall be envisaged in this model – the essence of higher order card management and consequently the financial turnaround of the company.

#### DEMONSTRATION OF THE IMPLEMENTATION AND RESULTS MODES:

- a) Seamless implementation of the carding programs on the floor along the lines envisaged in the technical note shall be the primary responsibility of the Principal Consultant and CEO of the company – Blackstone Synergy Consulting group Limited and the follow-up on the sustainability of the programs shall be vested on a talent pool of engineers visualized for hiring by the company.

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- b) The site teams shall be trained on the job and the systems internalized for fruitful derivatives on the performances in the plant. Results shall be forthcoming and all-round in the operations and shall be self-evident in all aspects all the way to reflect in the financials of the company.
- c) The correlation of the mechanical quality in the card shall be made with the following lead indicators in the polyester process:
  - i) Ring spinning end breakage at a productivity of 250 gms / ss

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Card Quality - Inspection					Card Quality - Measurable		BLOW ROOM AND CARD EVALUATION GRID	
Flat load (visual grades on a scale of 1-5 ascending)			Card Web Evaluation (CWE)		Card Sliver Evaluation (CSE)			
LHS	CENTER	RHS	Quality	Value / web width	Sliver parameters	Actual values	Standard Values	Variance
4	3.5	3	Fused	2	U%	3.80%	2.50%	-0.52
			Fibrous neps	3	CV <sub>b</sub> wrapping	2.60%	2.00%	-0.30
			Fragmented fiber traces	1	Breaks / hour	0.1	0.05	-1.00
			Holes	4	Chute stoppages / hr.	0.05	0.01	-4.00
			Cuts / uneven tracks	0	Blow room stoppages/Hr.	0.3	0.01	-29.00

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Flat load (visual grades on a scale of 1-5 ascending)			Card Web Evaluation (CWE)		Card Sliver Evaluation (CSE)			
LHS	CENTER	RHS	Quality	Value / web width	Sliver parameters	Actual values	Standard Values	Variance
4.1	4.2	3.9	Fused	2	U%	4.30%	2.50%	-0.72
			Fibrous neps	3	CV <sub>b</sub> wrapping	3.10%	2.00%	-0.55
			Fragmented fiber traces	1	Breaks / hour	0.15	0.05	-2.00
			Holes	4	Chute stoppages / hr.	0.05	0.01	-4.00
			Cuts / uneven tracks	0	Blow room stoppages/Hr.	0.3	0.01	-29.00

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Flat load (visual grades on a scale of 1-5 ascending)			Card Web Evaluation (CWE)		Card Sliver Evaluation (CSE)			
LHS	CENTER	RHS	Quality	Value / web width	Sliver parameters	Actual values	Standard Values	Variance
3.5	2.9	3.2	Fused	4	U%	3.80%	2.50%	-0.52
			Fibrous neps	3	CV <sub>b</sub> wrapping	2.60%	2.00%	-0.30
			Fragmented fiber traces	2	Breaks / hour	0.1	0.05	-1.00
			Holes	3	Chute stoppages / hr.	0.05	0.01	-4.00
			Cuts / uneven tracks	0	Blow room stoppages/Hr.	0.3	0.01	-29.00

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Flat load (visual grades on a scale of 1-5 ascending)			Card Web Evaluation (CWE)		Card Sliver Evaluation (CSE)			
LHS	CENTER	RHS	Quality	Value / web width	Sliver parameters	Actual values	Standard Values	Variance
3.1	2.7	3.2	Fused	7	U%	4.50%	2.50%	-0.80
			Fibrous neps	10	CV <sub>b</sub> wrapping	3.30%	2.00%	-0.65
			Fragmented fiber traces	5	Breaks / hour	0.3	0.05	-5.00
			Holes	0	Chute stoppages / hr.	0.05	0.01	-4.00
			Cuts / uneven tracks	0	Blow room stoppages/Hr.	0.3	0.01	-29.00

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Card Quality - Inspection					Card Quality - Measurable		BLOW ROOM AND CARD EVALUATION GRID	
Flat load (visual grades on a scale of 1-5 ascending)			Card Web Evaluation (CWE)		Card Sliver Evaluation (CSE)			
LHS	CENTER	RHS	Quality	Value / web width	Sliver parameters	Actual values	Standard Values	Variance
2.8	3.2	2.9	Fused	3	U%	4.20%	2.50%	-0.68
			Fibrous neps	5	CV <sub>b</sub> wrapping	2.95%	2.00%	-0.48
			Fragmented fiber traces	2	Breaks / hour	0.25	0.05	-4.00
			Holes	2	Chute stoppages / hr.	0.05	0.01	-4.00
			Cuts / uneven tracks	0	Blow room stoppages/Hr.	0.3	0.01	-29.00
Flat bend - LHS consistency index	Carding index	Flat bend - RHS consistency index		Visual quality index			Measurable Card quality index	1960
315.00	345.00	153.00		5823			Blowroom performance index	312500





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#### NOTES ON QUALITY INDICES:

- a) The quantitative models in evaluating the states of the process are the driving factors for the turnaround initiatives. The close monitoring of the cards help us in predicting actions and implementing solutions real time.
- b) The fundamentals of the linkages in the process are strong and require the following steps:
  - b.i. Cylinder, doffer and flat tops need to be re-sharpened on the machine at higher frequency to change the card dynamics that can be validated through the registration of improvements in the quality indices described above.
  - b.ii. The carding gauges can be checked out in the dynamic modes through the use of extensive positional thermometry as described in defining the mechanical quality of the cards and in defining the subsequent process performances.
  - b.iii. The online quality is the key to evaluating the process indicators and trending these in control charts shall yield the statistical interpretations for the plant personnel to work on and maintain the consistency.
- c) The expert software shall be within the purview of the consulting team and the site team shall be trained in the intricacies of generating process decisions and building loops of controls within the process through parametric and state of machinery interventions with predictable results and known pathways for achieving the right excellence factors.
  - ci. The long cots would need to be buffed at intervals of seven days and with 20 minutes of berkolization.
  - c.ii. The run out would need to be checked out with 0.01mm dial tolerances for higher accuracies..
  - c.iii. The extensive use of carbon paper impressions in the static modes shall help the teams in establishing the right nip gauges at the drawing stage and the impressions in the dynamic modes shall help establish the load distribution in the drafting plane and also decide on the loading point pressure dynamics for accurate prediction and controls on key process quality with implications on the knitted fabrics.



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c.iv. Ring spinning frames would require augmented maintenance systems that would significantly improve on the life and performances of critical components besides facilitating the achievement of productivity targets.

c.iv.a. Leveling of the frames would need to be included in each cycle to minimize the vibrations.

c.iv.b. The spindle, saddle and bottom roll gauge validation would need to be included in each maintenance cycle for enhanced accuracies.

c.iv.c. The leveling bolts would need to be approximated for spring loaded performances through the use of rubber pads to dampen the vibrating loads – a significant impact on the frame speeds and quality of the yarn shall be ensured.

c.iv.d The head stock and the off-end as well would need to be mounted on rubber pads for effective absorption of the vibrations and ensuring optimized high speed performances.

c.v.e. The rubber cots would need to be berkolized for 15-20 minute cycles for effective elimination of the oligomer particles and improved rubber performances. Also, the tolerances for cots and bottom roller eccentricity would need to be maintained within 30 microns.

d) Lead quality indicators shall be on the online modes and would have the following implications:

A1A2B1B2 – the tolerable slubs that define ring spinning productivity, the knitting machinery performances and the degrees of unevenness in the fabric as defined by the frequencies and densities of thick and thin in the knitted fabric.

Long thick and thin – The knitted fabric appearance shall be the key determinant

e) Factors of effective turnaround have been enumerated in the following charts:

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FACTOR-1: SPINNING PRODUCTIVITY				
GREIGE STATE RECYCLED POLYESTER - 1.4 D x 38 MM				
TIMELINE	COUNT	SPINDLE SPEED	TPM	GMS/SS
CURRENT	30	15600	622	0.209
WEEK-3	30	16500	622	0.221
WEEK-4	30	17500	622	0.234
WEEK-5	30	18000	622	0.241
MELANGES - RECYCLED POLYESTER - 1.4 D x 38 MM				
TIMELINE (on commissioning)	COUNT	SPINDLE SPEED	TPM	GMS/SS
WEEK-1	30	16500	715.3	0.192
WEEK-2	30	17500	715.3	0.204
WEEK-3	30	18000	715.3	0.210

#### FACTOR-2: KNITTING MACHINERY PERFORMANCE FOR GREIGE YARN – RECYCLED POLYESTER

LINE PERFORMANCE INDICATORS				
TIMELINE	COUNT	MPM	BREAKS/ROLL	REJECTION DEFECTS
WEEK-5	30	35	2	0
WEEK-6	30	40	2	0
WEEK-7	30	40	1	0
WEEK-8	30	45	1	0

#### FACTOR-2: KNITTED FABRIC QUALITY INDICATORS

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FABRIC QUALITY INDICATORS – GREIGE RECYCLED POLYESTER					
SLUBS/METER	EVENNESS (thick + thin cumulative /100m <sup>2</sup>	LONG THICK / ROLL	LONG THIN / ROLL	PERIODICITY/PHYSICAL BARRE	PERIODICITY / COLOR BARRE
0	12	7	11	Nil	Nil
0	10	6	9		
0	8	5	7		
0	7	3	4		

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**FACTOR-2B: MELANGES KNITTING MACHINERY PERFORMANCES:**

	LINE PERFORMANCE INDICATORS				
TIMELINE	COUNT	MPM	BREAKS/ROLL	REJECTION DEFECTS	SLUBS/METER
WEEK-5	30	25	3	0	0
WEEK-6	30	30	3	0	0
WEEK-7	30	35	2	0	0
WEEK-8	30	35	2	0	0

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FABRIC QUALITY INDICATORS				
EVENNESS (thick + thin cumulative /100m <sup>2</sup> )	LONG THICK / ROLL	LONG THIN / ROLL	PERIODICITY/PHYSICAL BARRE	PERIODICITY / SHADE BARRE
22	14	20	Nil	Nil
20	12	15		
18	9	12		
18	7	10		

FACTOR-3: RF LABOR PRODUCTIVITY AND COSTS / 8000 SPINDLES					
TIMELINE	DRAFTING ZONE CLEANER	BATCH CREELER	DOFFING GANG	PIECER	TOTAL / 8000 SPINDLES
WEEK-5	1	4	6	2	13
WEEK-6	1	4	6	2	13
WEEK-7	1	4	4	2	11
WEEK-8	1	4	4	2	11

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Clean Profitability indicators - Operating fundamentals									
FACTOR-1: SPINNING PRODUCTIVITY					LINKED FINANCIAL FACTORS				
GREIGE STATE RECYCLED POLYESTER - 1.4 D x 38 MM					GREIGE STATE DYNAMICS			OVERALL PLANT DYNAMICS	
TIMELINE	COUNT	SPINDLE SPEED	TPM	GMS/SS	CONTRIBUTION / SALE VALUE	GP	NP	Product Mix ratio	
CURRENT	30	15600	622	0.209	40%	34.0%	13.6%	0.6	
WEEK-3	30	16500	622	0.221	42%	36.0%	14.4%	0.4	
WEEK-4	30	17500	622	0.234	45%	38.1%	15.3%	0.2	
WEEK-5	30	18000	622	0.241	46%	39.2%	15.7%	0.2	



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MELANGES - RECYCLED POLYESTER - 1.4 D x 38 MM					MELANGE PROCESS DYNAMICS			OVERALL PLANT DYNAMICS	
TIMELINE (on commissioning)	COUNT	SPINDLE SPEED	TPM	GMS/SS	CONTRIBUTION / SALE VALUE	GP	NP	Product Mix ratio	Overall plant NP
WEEK-1	30	16500	715.3	0.192	45%	38.3%	15.3%	0.4	14.3%
WEEK-2	30	17500	715.3	0.204	48%	40.6%	16.2%	0.6	15.5%
WEEK-3	30	18000	715.3	0.210	49%	41.7%	16.7%	0.8	16.4%
ASSUMPTIONS					ASSUMPTIONS				
OPERATING	1. Cheapest available fiber usage				FINANCIAL	1. Liability is a stand-alone factor outside the realm of the computation model			
	2. Factors-2 and 3 detailed in the description for the operating fundamentals have been factored in for computing the contribution.					2. The contribution is the single most important determinant for the financial transformation and the benchmark baseline is 40% of the sale value.			

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	3. The optimization of the process is insulated from the capacity utilization; the basic premise is on the operating the unit in multiples of 8000 spindles and not for the intermittent capacities of odd lots.		3. The product mix and capacity utilizations shall revolve around the fundamental premise of achieving the baseline financial goals as described above.
<u>ASSUMPTIONS</u>		<u>ASSUMPTIONS</u>	
CAPEX & WCM	1. No investment in critical spares and machinery components is envisaged for the calendar year 2017.	DEBT MANAGEMENT	1. Lending consortium to be convinced for a moratorium of six months
	2. The infrastructural costs for utility functions of compressors and transformer maintenance shall be nominal in the calendar year - 2017.		2. Infusion of 3-month working capital from the existing lending consortium and factoring the same in the liability outlay
	3. The plant can operate with JIT (just -in-time) raw material inventory right through the calendar year - 2017		3. The entire outstanding liability to be converted into a lease model of 5 or 7-years tenure depending on the size of the liability as a percentage of net worth



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LIABILITY / NET WORTH	CLEAN MARGIN SCENARIO (Leased EMI tenure analysis in months inclusive of 6-month moratorium)				
	9%	10%	12%	14%	15%
>200%	90	84	78	72	66
150-200%	77	71	66	66	60
100-150%	66	66	60	60	60

#### The financial turnaround strategies: ESSENTIAL ROADMAP FOR MANAGING THE LIABILITY

1. The liability needs to be measured as a percentage of the conservative valuations of the assets.
2. The lending consortium needs to be presented with a credible business plan that should be seen to be working practically.
3. The entire liability needs to be re-jigged to a leased model with an initial moratorium of six months tenure and an infusion of working capital to the tune of three months on existing capacities.

#### CONCLUDING REMARKS ON RE-ENTRY DYNAMICS FOR COTTON PROCESS IN THE MANUFACTURING LINES AT CHEEMA SPINTEX

1. The six-month moratorium tenure should be utilized for raking up the envisaged profitability and accrued savings for leased monthly payouts and the working capital requirements prior to the cotton switch.
2. The operating dynamics with the cotton shall have to converge on the following delivery points to realize the sustainability of the profitability engineering initiatives.

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FACTOR-1: SPINNING PRODUCTIVITY					LINKED FINANCIAL FACTORS				
COMBED COTTON 100% PROCESS					GREIGE STATE DYNAMICS			OVERALL PLANT DYNAMICS	
TIMELINE	COUNT	SPINDLE SPEED	TPM	GMS/SS	CONTRIBUTION / SALE VALUE	GP	NP	Product Mix ratio	
CURRENT	30	20,500	800	0.214	40%	34.0%	13.6%	0.6	
WEEK-3	24	19000	715	0.267	50%	42.6%	17.0%	0.4	
WEEK-4	20	18200	625	0.339	64%	54.0%	21.6%	0.2	
WEEK-5	16	16500	575	0.448	84%	71.4%	28.6%	0.2	

100% combed process requires some strong performance yardsticks to merit a look-in to the operations and to achieve a contribution of 40% or above as the baseline index.

The enclosed chart hereunder portrays the performance indices and the underlying factors for the financial recovery driven by organic growth.