

TOTAL COST OF OWNERSHIP CHECKLIST

PACKAGING AND PROCESSING MACHINE GUIDELINES FOR CPGs AND OEMs



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TOTAL COST OF OWNERSHIP CHECKLIST



ACQUISITION COST

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KEY						
Characteristic (direct costs or cost implications)	Information Provided By:	Status on Track? Y/N	Importance to Project Success H-M-L	New Equipment Cost		
(see guideline document for definitions & clarifications)				Base Model	Options (Add/Delete)	Net
Example:		Y		10,000	0	10,000

* The level of detail should be discussed and agreed upon by CPG and OEMs.

EQUIPMENT DESIGN & APPLICATION <input checked="" type="checkbox"/>						
Characteristic (direct costs or cost implications)	Information Provided By:	Status on Track? Y/N	Importance to Project Success H-M-L	New Equipment Cost		
(see guideline document for definitions & clarifications)				Base Model	Options (Add/Delete)	Net
Engineering Costs (External)	CPG internal					
Health, Safety & Environmental (H/S/E)	CPG provides their H/S/E requirements and the OEM need to provide their information as it applies to the CPG. Both come to agreement.					
Specific Controls	OEM provides their standard, CPG provides their requirements					
Changeover Options	CPG provides the expected rate and requirements for changeovers, OEM provides design capabilities					

Notes: _____



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PROJECT REQUIREMENTS <input checked="" type="checkbox"/>						
Characteristic (direct costs or cost implications)	Information Provided By:	Status on Track? Y/N	Importance to Project Success H-M-L	New Equipment Cost		
				Base Model	Options (Add/Delete)	Net
(see guideline document for definitions & clarifications)						
General requirements	CPG provides					
Permit/Certification	CPG provides					
Operations & Maintenance Documentation	CPG provides expectations and protocols, OEM provides their planned program					
Spare Parts, components, lubricants	CPG provides expectations and protocols, OEM provides their planned program					
Factory Acceptance Tests	CPG provides expectations and protocols, OEM provides their planned program					
Site Acceptance Tests	OEM provides costs, refer to PMMI's model sales contract section on this topic					
Shipping & Responsibility	CPG provides the expected rate and requirements for changeovers, OEM provides design capabilities					
Warranty Cost & Time Period	OEM provides detailed information					

Notes: _____



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INSTALLATION <input checked="" type="checkbox"/>						
Characteristic (direct costs or cost implications)	Information Provided By:	Status on Track? Y/N	Importance to Project Success H-M-L	New Equipment Cost		
				Base Model	Options (Add/Delete)	Net
(see guideline document for definitions & clarifications)						
Installation	CPG provides requirements and specifications to work on site					
Unloading	CPG provides expectations, OEM details exceptions, weights, special requirements, equipment to be used					
Uncrating & Disposal	CPG provides expectations, OEM details exceptions					
Assembly	CPG provides expectations including rigging, electrical etc , OEM provides supervision and/or labor as requested					
Initial Set-up	CPG verifies equipment is received and installed in good order, change over parts and software are in place, OEM uses the technician to assure the equipment is prepared for commissioning phase					
Installation Service Technicians (OEM Start up Costs)	CPG provides timeline for startup and OEM proposes plan and related costs					
Special Conditions	CPG provides expectations, OEM provides response					

Notes: _____



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INITIAL TRAINING <input checked="" type="checkbox"/>						
Characteristic (direct costs or cost implications)	Information Provided By:	Status on Track? Y/N	Importance to Project Success H-M-L	New Equipment Cost		
				Base Model	Options (Add/Delete)	Net
(see guideline document for definitions & clarifications)						
Initial Training (prior to start up through close-out)	OEM provides the needs assessment based upon the unique requirements of the equipment, project and the CPG site. CPG and OEM develop plan					
Technical Training Define Level Required	OEM and CPG develop plan, identifies need and resources required					
Documentation & References	OEM provides theory of operation					
Initial Training Definition	Determination of classroom and hands on					
Level Required	OEM and CPG agree to time required to satisfy need					
Basic						
Intermediate						
Advanced						

Notes: _____



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ENERGY/UTILITY COSTS <input checked="" type="checkbox"/>						
Characteristic (direct costs or cost implications)	Information Provided By:	Status on Track? Y/N	Importance to Project Success H-M-L	New Equipment Cost		
				Base Model	Options (Add/Delete)	Net
(see guideline document for definitions & clarifications)						
Energy/Utility Costs	OEM provides the usage requirements at its maximum and continuous consumption rate. CPG calculates the costs based upon local site conditions.					
Compressed Air						
Electrical						
Gas						
Water Usage						
Water Treatment						

Notes: _____

TOTAL COST OF OWNERSHIP CHECKLIST



OPERATING COST



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KEY				
Characteristic (direct costs or cost implications)	Information Provided By:	Status on Track? Y/N	Importance to Project Success H-M-L	Cost Basis
Example: Maintenance Cost	OEM	Y	M	<ul style="list-style-type: none"> Identify Anticipated Equipment Life Calculate cost basis per year of the Anticipated Equipment Life Provide rationale for calculations

* The level of detail should be discussed and agreed upon by CPG and OEMs.

QUALITY/DEFECTS/SCRAP/REWORK <input checked="" type="checkbox"/>				
Characteristic (direct costs or cost implications)	Information Provided By:	Status on Track? Y/N	Importance to Project Success H-M-L	Cost Basis (see above)
Defect (designed loss)	OEM provides machine efficiency, defects per "x" rate, CPG provides minimum requirements			
Scrap (designed waste)	OEM provides machine efficiency, scrap per "x" rate, CPG provides minimum requirements			
General Start up expenses	OEM and CPG discuss requirements			
Cost of procurement of materials	OEM and CPG discuss tolerance of materials needed			
Throughput-machine performance reliability	OEM provides machine efficiency (OEE, design and planned), CPG provide their minimum requirements.			
Rework	Unintentional loss, needs to be extrapolated by CPG based upon its experience			

Notes: _____



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OPERATING LABOR

Characteristic (direct costs or cost implications)	Information Provided By:	Status on Track? Y/N	Importance to Project Success H-M-L	Cost Basis (see first page)
Staff Required	OEM provides in estimate of hours required, CPG needs to insert its fully loaded rate for internal calculations			
Skills Sets needed	OEM provides: trained operator identifying the skills needed			
Operator time to add materials	OEM identify replenishment needs and frequency			
Designed for Operability	OEM identifies the equipment characteristics, CPG conveys it operability baseline requirements			
Risk Assessment (includes lockout-tagout, PPE)	OEM provides the risk assessment by piece of equipment CPGs provide their operational/safety requirements			

MAINTENANCE

Characteristic (direct costs or cost implications)	Information Provided By:	Status on Track? Y/N	Importance to Project Success H-M-L	Cost Basis (see first page)
Daily Set-up time / Changeover	OEM provides changeover time and cold start timerequirements, CPG provides operation requirements,coordination with upstream and downstream requirements. OEM and CPG need tocoordinate on material requirements			
Preventative Maintenance Plan	OEMs provide recommended plan and time required			
Maintenance Cost	CPG assigns labor cost based upon OEM requierments			
Service Cost	OEMs provide estmate for their recommended service requirements			
Alignment requirements or special tools	CPG and OEM define additional setting requirements and associated costs			
Spare Parts, components, lubricants	OEM provides costs (e.g. recommended spare parts kit)			

Notes: _____



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CLEANING & SANITATION

Characteristic (direct costs or cost implications)	Information Provided By:	Status on Track? Y/N	Importance to Project Success H-M-L	Cost Basis (see first page)
Cleaning & Sanitation	CPG needs to define product and requirements for cleaning and regulatory requirements for operations			
CIP/COP	CPG provides sanitary requirements and OEM provide requirements for utility, chemicals, etc			
Wet clean (wash down) / Dry clean (wipe down)	CPG provides possible contaminants and the parts of the equipment to be wet cleaned. OEM provides procedures and special tools. Both identify special requirements.			
Accessibility	OEM demonstrates access and layout for cleanability. special requirements.			
Time: Per cleaning occurrence and Frequency	OEM provides recommendation and special conditions or tools			
Materials and components requirements	OEM provides specifications detailing requirements to clean components			

TRAINING

Characteristic (direct costs or cost implications)	Information Provided By:	Status on Track? Y/N	Importance to Project Success H-M-L	Cost Basis (see first page)
Training (during Operations)	CPG needs to communicate level of additional training needed. Depends upon level and complexities of technologies.			
Refresher/update	Depending upon technology and complexity of equipment, CPG needs to communicate the level of additional training needed to OEMs to come back after initial period to do retrain and requalify			
Type (classroom, hands-on, digital)	Dialogue should occur between CPG and OEM on type of training most suitable			

Notes: _____



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UTILITY/ ENVIRONMENTAL COSTS

Characteristic (direct costs or cost implications)	Information Provided By:	Status on Track? Y/N	Importance to Project Success H-M-L	Cost Basis (see first page)
Utility Costs	<i>Expected Usage Rate or on Gradient with throughput and associated unit cost for each</i>			
Compressed				
Electrical				
Gas				
Water Usage				
Water Treatment				
Environmental Costs	<i>Expected Usage Rate or on Gradient with throughput and associated unit cost for each</i>			
Wastewater				
Air Emissions				
Disposal				
Lubricants				
Solvents				

Notes:
