NISSAN
MOTOR CORPORATION

Production Capacity Plan (PCP)

Key Point(s):

- The Production Capacity Plan (PCP) is intended to confirm that the production capacity to support Nissan requirements will be available and not constrained by the mix of product required.

Minimum Content Requirement(s):

The Supplier shall systematically define and document below:
- the process capacity for each step described in the process flow chart (1 – PRODUCTION CAPACITY PLAN)
- the allocation description for NISSAN new product among existing other products (3 – SHARED CAPACITY STUDY).

Output Document Description:

1 - PRODUCTION CAPACITY PLAN

Item		Completion Instructions
	N Project	Nissan Vehicle / Powertrain project for which the product is being developed / manufactured.
	Special characteristics	Tick all boxes that apply to the product being developed/manufactured.
	Document Reference No./ Version	The Suppliers reference no. and version no. for the document.
	Document Revision Date	The date of the latest revision of the document.
	Document Origin Date	The date when the document was first issued.
	Supplier Name	Nissan Primary (Tier1) trading company name.
	Supplier Plant	Location at which the product will be produced.
	Supplier Code	Unique code to each supplier, issued by Nissan Purchasing Dept.
	E-mail	The E-mail address of the person who created / revised the document.
	Author	The name of the person who created / revised the document.
	Tel	The telephone number of the person who created / revised the document.
	Part Name	The part name or description as identified on the product drawing.

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Item			Completion Instructions
	Part No. & Issue Level:		Part number which is issued by Nissan design department.
	Design Note No. / DEVO		The latest design note number that applies to the product being developed / manufactured.
	Operation Number		Process stage indicator. Should cross reference to the Process Flow Chart & Standard Operation sheet
CAPACITY REQUIREMENT		A1 – Unit of measure	Indicate if calculation is based on number of vehicles or number of parts (ex: when case of use is several per car) Refer to RFQ for details
		A1i – Annual volume requirement **(calculated)**	Must be compliant with RFQ volumes
		A1ii – Peak volumes requirement	Indicate peak volume margin (in % of RFQ volumes if A1 is in vehicles; in number of parts if A1 is in parts)
		A1iii – Part usage per vehicle	Number of parts needed per car (only if A1 is expressed in parts)
		A2 – Annual requirements	Number of parts required per annum
		A3 – Annual working weeks	Number of working weeks the Nissan plant is in operation below NML; Please enter 48 weeks or less for annual, 49 weeks or less for peak NMUK; 47 weeks or less if supplier works less
		A4 – Weekly requirement **(calculated)**	Calculation of weekly requirements (average and peak)
		A5 – Supplier weekly requirement **(calculated)**	Comes from detailed process capacity calculation
OEE REQUIREMENT		B1 – Process description	Detail Name of each process (e.g. stamping, molding…) consistent with process flow chart
		B2 – Next downstream process	Select next process number from the list
	Standard shift pattern	B3 – Planned working days per week	Indicate number of working days for each process
		B4 – Planned shift per day	Indicate number of regular shift pattern for each process
		B5 – Shift duration	Indicate number of hours per shift for each process

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Item			Completion Instructions
		B6 – Planned downtime – excluding changeover	Indicate number of hours for planned stops (e.g. planned maintenance, lunch, meetings…)
		B7 – Average minutes per changeovers	Indicate average required number of minutes to perform a changeover
		B8 – Planned changeover frequency per week	Indicate average number of changeover estimated per week
		B9 – Planned downtime due to changeovers **(calculated)**	Calculation of weekly process downtime duration due to changeover
	Additional shift pattern / overtime	B10 – Planned working days per week	Indicate planned working days per week
		B11 – Planned shift per days	Indicate planned working shift per day
		B12 – Shift duration	Indicate total duration of working shift (hours)
		B13 – Planned downtime excluding changeover	Indicate number of hours for planned stops (e.g. planned maintenance, lunch, meetings…)
		B14 – Average minutes per changeover	Indicate average required number of minutes to perform a changeover
		B15 - Planned changeover frequency per week	Indicate average number of changeover estimated per week
		B16 – Planned downtime due to changeover **(calculated)**	Calculation of weekly process downtime duration due to changeover
		B17 – Number of equipment operated in parallel	Number of equipment and processed that can be operated in parallel (same processing)
		B18 – Equipment allocation (%)	Percentage of capacity allocation for the studied part
		B19 – Is allocation acceptable? **(calculated)**	OK: allocation acceptable REVIEW: insufficient allocation NOT OK: exceeding 100% GREYED OUT: “shared capacity study” sheet not completed
		B20 – Total equipment available for production	Number of machines/lines which can be used in parallel

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Item			Completion Instructions
		B21 – Planned runtime(h/w) **(calculated)**	Number of weekly hours of production for studied part
		B22 – Number of employees per process per shift	Number of direct employees/workers required to operate the product manufacturing facility.
EQUIPMENT / PROCESS INFORMATION		B23 – Equipment design cycle time	Number of seconds between parts coming out from each process
		B24 – Number of parts manufactured per cycle	Number of part coming out during each cycle (ex: mold with 4 cavities ➔ 4)
		B25 – Net cycle time **(calculated)**	Average cycle time to manufacture one part. It's design cycle time divided by number of parts coming out.
		B26 – Total production per week including weekends @ 100% OEE	Maximum output calculation assuming 100% OEE
		B27 – Straight through ratio	Indicate percentage of parts coming out of the process and good at the first time. The numerator will be the number of good products, not including reworked products, NG products, or scrapped products, compared to the total number of products produced. (For a production of 10 products, 2 were reworked, 2 were NG products, and scrapped, so STR is 60%)
		B28 – OK ratio	Indicate percentage of OK parts, including reworked parts
		B29 – Total good parts needed to supply the next process **(calculated)**	Calculation of required output to sustain downstream processes
		B30 – Minimum OEE requirement **(calculated)**	Minimum OEE requirement calculation to sustain demand (performance and availability factors)
SUPPLIER HISTORICAL OEE PERFORMANCE		C31 – New or existing production equipment/line	Select new or existing

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Item			Completion Instructions
		C32 – Historical OEE	Select from the list the level of OEE for existing facility. For a new one, use predicted expected OEE based on similar equipment or experience & refer to sheet 4 (OEE calculator) to harvest data
		C33 – Weekly supplier capacity based on historical OEE	Calculates supplier weekly capacity from previous figures and assuming to reach historical OEE
		C34 – Daily supplier capacity based on historical OEE	Calculates supplier daily capacity from previous figures and assuming to reach historical OEE
		C35 – Weekly surplus / shortfall**(calculated)**	Makes the difference between volume requirement and weekly capacity based on history
		C36 – Bottleneck process identification**(calculated)**	Automatically points out the bottleneck operation
		C37 – Total shared capacity(%)**(calculated)**	Process utilization considering all manufactured parts
PRODUCTION CAPACITY PLAN JUDGEMENT		D38 – PCP result **(calculated)**	PASS: capacity plan acceptable REVIEW: supplier is running a nonstandard shift structure FAIL: insufficient production capacity to meet the demand
		D39 – Shared capacity study **(calculated)**	PASS: shared capacity study acceptable REVIEW: shared capacity study is above 85% and less than 100% FAIL: shared capacity is more than 100%
		D40 – Overall judgement **(calculated)**	Final judgement after PCP result and Shared capacity study
		D41 – PCP follow-up date	Date for next update
NISSAN REPRESENTATIVE APPROVAL		D42 - Approval	Status to be selected between APPROVED and REJECTED by NISSAN representative. To be completed with Name, Position, Signature and Date Comment to be added in case of rejection.

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2 – T2000 WORKSHEET

To be completed on request.
Goal is to check real capacity consistency with theoretical one declared by supplier's representative in sheet 1 – PRODUCTION CAPACITY PLAN.

3 – SHARED CAPACITY STUDY

For each process, please describe parts information:

Item	Completion Instructions
5a. Program code	Name program code for existing project using same facility
5b. Part number / name	Name part type for existing project using same facility
5c. Annual volume	Indicate annual volumes for existing project using same facility
5d. Usage per vehicle	Number of parts needed to produce 1 vehicle
7. Equipment net cycle time	Standard time to produce 1 part for existing project using same facility
8. Historical OEE%	Input OEE related to the part
9. Runtime required per week @OEE assumption **(Calculated)**	Number of minutes the facility should running to sustain part demand (annual and peak)
10. Allocation required / Equipment or process **(Calculated)**	Ratio of facility utilization to produce the part

4 – OEE CALCULATOR (Optional)

This template is a tool to help supplier to calculate OEE when OEE can't be demonstrated (ex: new line).
It enables to calculate Availability, Performance and Quality indicators used in the calculation of OEE and defined as common industry standard.

5 – OEE improvement plan

Not to be documented by supplier.
NISSAN sheet only

If SFVC audit result is not confirming supplier's planned figures or if an action plan is necessary to increase the output.
Supplier's representative is to assist NISSAN Supplier Risk Management Team to populate this sheet.

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