ÚSEK RIADENIA KVALITY
Proces PPAP PRODUCTION PART APPROVAL PROCESS

GENERAL QUALITY CONDITIONS FOR SUPPLIERS OF TATRAVAGÓNKA, A.S.

TATRAVAGÓNKA POPRAD

Autor: V. Laubert
Schválil: D. Mláka

Dátum: 24.2.2009
Verzia: 3

1. SCOPE OF APPLICATION OF GENERAL QUALITY CONDITIONS FOR SUPPLIERS

The present document "General Conditions of Suppliers Quality for Tatravagónka, Inc. is intended to specify quality requirements for Suppliers of Tatravagónka, Inc. as well as proceedings that are requested to assure quality of supplied parts.

Suppliers are responsible for quality of delivered parts/ materials. This remains valid for the whole scope of the delivery. Supplier is also responsible for implementation of relevant quality system in its organization.

Tatravagónka, Inc. hereby expects from its suppliers to perform continual and strict realization of requested methods and procedures. This will be checked by Tatravagónka, Inc. during process audits at suppliers' facilities.

Suppliers are recommended to transfer requirements of these conditions on their suppliers (sub-suppliers).

The main objective of purchasing process of Tatravagónka, Inc is to assure constant quality and deliveries under requested terms and prices so that Tatravagónka, Inc will be able to decrease scope of performing Incoming Inspection.

2. QUALITY PLANNING AT SUPPLIERS

Supplier promises to plan, organize, and realize its production process and quality assurance at its own responsibility the way that overall control and quality checks as well as following the quality requirements will be met to ensure quality requirements of the product.

To reach conformity with requested quality level, it is necessary to systematically plan quality at the supplier. This section contains summary of the requirements that are requested from the supplier by TATRAVAGÓNKA, and which fulfillment must be planned, documented, and evaluated.

As a part of systematic planning, it is expected to set goals and generate time schedule with identification of milestones.

2.1 CONTACT PERSONS

To ensure successful cooperation based on confidence between customer and supplier it is reasonable to appoint persons that are responsible for continual quality improvement.

Further, TATRAVAGÓNKA expects from suppliers to appoint responsible contact persons in the field of logistics and price policy. Goal is to provide exact and flexible solving process of all the questions related to actual project.

Appointing of the aforesaid persons is expected during the offering procedure phase.

2.2 ZERO DEFECT STRATEGY

Zero defect strategy is a general strategy and it is expected from supplier to join this effort.

2.3 QUALITY DOCUMENTS

During the quality planning phase the supplier is expected to generate the following documents:

2.3.1 PROCESS FLOW DIAGRAM

It specifies consequence of steps of production process (consequence production and control operations being performed during a production process);
Form of layout/ way of generating the document is chosen by supplier. The only condition is clearly visible consequential flow.

2.3.2 PROCESS FMEA

Probability analysis of failure occurrence and effect of such consequences is implemented as important tool to avoid occurrences of faults. FMEA structuralizes and determines steps of production process in its complete span from incoming material to physical outcome of the product.

2.3.3 CONTROL PLAN

If Control Characteristics are specified then TATRAVAGÓNKA requests Supplier to generate and deliver Control Plan. Control Plan defines and describes all the control steps related to control characteristics as specified by TATRAVAGÓNKA.
Control Plan is considered an answer on complete specification and it has to address each and every key characteristic, which means each particular characteristic determined by TATRAVAGÓNKA, additional control characteristics determined by Supplier and other important characteristics.
In case it is impossible to measure an originally requested control characteristic separately but another characteristic can be used to determine the original one by measurement then such characteristic has to be included in Control Plan.
Control Plan is to cover the complete span from Incoming up to outcoming inspection.
Frequency of measurements and description of samples selection as well as analyses (SPC, check - before, PID), C_{PK} reaction plan in case of nonconformity occurs should exist for all the items.

Each Control Plan is to show:

- Controlled (measured) value including its tolerances;
- Used measurement device, manner of measurement;
- Scope of selection;
- Frequency of checks;
- Identification of processes to be controlled by SPC;
- Reaction Plan for indentified nonconformities;
- Manner of recording;
- Responsible person.

Control Plan is to be made available to Quality Department of TATRAVAGÓNKA to evaluate.

2.4 EMERGENCY STRATEGY

Supplier is requested to create adequate substitute strategy in case of any and all cases of emergencies to avoid stop of deliveries for TATRAVAGÓNKA.

2.5 PREVENTIVE MAINTENANCE

Suppliers are obliged to develop preventive system of maintenance of their production equipments.

Supplier is requested to introduce a “Book of machine”, which is to record all executed regular and extraordinary inspections and repairs of production machinery.

3. QUALITY ACTIVITY AT DELIVERIES FOR REGULAR PRODUCTION

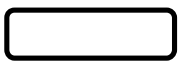
3.1 CONTROL CHARACTERISTICS

Two levels are defined for control characteristics:

- Critical characteristics
- Important characteristics

3.1.1 CRITICAL CHARACTERISTIC

Critical characteristics are marked on technical documentation as follows:



Critical characteristics are such characteristics in which (usually independently from other characteristics) deviation from target value:

- Increases safety risk;
- Seriously reduces performance, functionality or reliability;
- Significantly complicates assembly or makes it even impossible;

- Which has to be met as precisely as possible to compensate larger deviations of fitting dimensions in order to avoid at least one the aforementioned problems.

Critical characteristics are actual characteristics that remain critical irrespective of whether or not they can be trouble free measured. Measurement method or a manner as how they can be determined by controllable characteristics is to be included in the Control Plan.

To assure quality control over critical characteristics the SPC is preferably implemented.
Because of fact that C_{PK} is measuring of a probability if given parameter is out of tolerance, the SPC measurement is not always unavoidable as it may not be sufficient.

3.1.2 DETERMINATION OF CRITICAL CHARACTERISTICS

- Critical characteristics are to be identified by Tatravagónka in Design FMEA process;
- Critical characteristic may be determined subsequently and announced to Supplier on basis of assembly test of test pieces/samples being delivered before launch of serial production. Number of delivered pieces is decided separately according to nature of a part and estimated production cadency.

3.1.3 IMPORTANT CHARACTERISTIC

Important characteristics are marked on technical documentation as follows:

These are characteristics on which deviations out of defined tolerances do not have unavoidable or direct and immediate impact on safety, performance, functionality, reliability, or assembly process. If there are any consequences they can be identified and corrected by taking reasonable effort when assembling.

Because of lower impact a permanent control by SPC is not required but serial production should be monitored regularly. The frequency depends on expected relevant process changes as well as on failure consequences.

3.2 PERFORMED CHECKS

3.2.1 SHORT TERM PROCESS CAPABILITY

Before serial delivery is launched, there is requested to determine indicator of short term process capability P_{PK} on basis of given control characteristics as specified in "Quality Plan for Product".
P_{PK} is used as process performance index and represents short term process capability.
As far as capability is concerned the focus is on effects of production machinery. Other elements' effects (material, people, methods, measurement, miscellaneous) have to remain constant.

3.2.2 LONG TERM PROCESS CAPABILITY C_P AND C_{PK}

C_{PK} is used as process capability index generally.

Process capability is a measure its quality related to requested properties of the products generated during the process. It is necessary to perform long term measurements to establish continual process capability. That means the process has to be under constant control so any and all systematic influences have to be known and under control.

Long term capability is usually lower than short term one due to process variations, such as behavior of operators, shift, materials batches and so on – they affects overall process variation. If specification requires index P_{PK} >= 2.0 then the index has to be verified during part approval. This will assure that serial production will reach index C_{PK} >= 1.5.

SPECIFICATION	SHORT TERM PROCESS CAPABILITY P_{PK} (PPAP – APPROVAL PROCESS)	LONG TERM PROCESS CAPABILITY C_{PK} (SERIAL PRODUCTION)
2,0	2,0	1,5
1,5	1,5	1,33

3.2.4 CHECKS DURING SERIAL PRODUCTION

Supplier, during the deliveries for serial production, is obliged to keep performing checks and control in scope specified by Control Plan to be able to reach quality level required by Tatravagónka on all delivered products.

Supplier is requested to follow approved Control Plan for serial production.

Results have to be documented.

3.2.5 STORING OF QUALITY DATA

Supplier is responsible for sorting, maintaining and archiving of documentation related to continual control activity. If requested by Tatravagónka, the supplier is obliged to enable access to such documentation as well as entry to areas where production takes place. Tatravagónka is to inform the term of visit sufficiently ahead of the date.

3.2.6 MARKING THE PARTS – TRACEABILITY

Materials, raw materials, parts and final products have to be marked and stored the way that prevents any possibility for mistake changing or confusing and to assure traceability.

3.2.7 TEMPORARY CHANGE APPROVALS (TCA)

If supplier in the course of its control activity identifies nonconformity comparing valid documentation of Tatravagónka, it has to inform Tatravagónka momentarily. Approval of TCA (Temporary Change Approval) for delivery of parts that do not meet specification may be performed only on basis of request for TCA that has to be delivered in written.

Approval of TCA is valid always and strictly the only for specified quantity or given delivery period.

3.2.8 CALIBRATION OF MEASURING AND TESTING DEVICES

Supplier is required to use only calibrated and verified measuring and testing devices. All versatile measuring devices including electrical and pneumatic ones, control and measuring aids have to be calibrated according to elaborated plan. Calibration intervals follow kinds of devices and purpose of use.

Measuring devices that failed to be calibrated must not be used. Calibration has to be documented and measuring device must be marked. Marking sign is to give clear indication of term of following calibration.

3.3 INTERNAL AUDITS

System Audit

Internal system audit is preformed in given time periods on instruction of supplier's management to improve its overall quality capability.

Process Audit

The focus of Process Audit is to verify if deployed procedures and processes meet submitted requirements.

Findings identified during Process Audit must be subsequently transferred into Improvement Plan. Performing corrective actions and their effectiveness has to be monitored and documented.

Product Audit

Means verification of small quantity of products prepared to be dispatched with focus on conformity with requested specifications (drawings, technical instructions, packaging instructions, technical standards, and laws and so on).
Product is to be evaluated from stand point of a Customer.

Audit findings have to be documented along with corrective actions and improvement actions have to be identified.

3.4 SPECIFIC COMMODITIES

In case of specific commodities, which have to be handled specifically, it is necessary to elaborate relevant individual delivery/ acceptance procedure. This has to be prepared on basis of cooperation with expert from supplier.

If there is necessary to perform incoming inspection of a given commodity at Tatravagónka then there is determined, along with the supplier, binding acceptance plan for each batch according to EN ISO 2859-1.

3.5. CLASSIFICATION OF SUB-SUPPLIERS

Supplier is expected to transfer on sub-suppliers alike conscious approach as is dedicated by Tatravagónka toward its suppliers. It is recommended to perform simple transfer the present General Quality Conditions for Suppliers on their respective suppliers.

Supplier remains fully responsible for quality of the supply.

4. MANNER OF ACTIVITY OF SUPPLIER WHEN CLAIM ARISES

- If the is identify a nonconformity delivered to Tatravagónka then Tatravagónka is to inform supplier with no delay;
- The binding way to report such an occurrence is filled out form "PSM Report";
- Supplier is immediately requested to take measures to prevent delivery of another batch with infected units if they are already produced and/or prepared to be delivered to Tatravagónka;
- Delivery of "PSM Report" is to be confirmed by supplier within 3 business days;
- Supplier is expected to mail its reaction plan of corrective actions to Procurement Department of Tatravagónka, Inc. within 7 days since the day all the necessary information and/or faulty pieces have been delivered to supplier. It is recommended to communicate in form of 8D Report.

4.1 INTERIM CONTAINMENT ACTIONS

Supplier is expected to perform provisions as follows:

- Analyze the root cause of the problem and adopt interim containment actions;
- Separate/isolate all nonconforming products as well as suspected products in its production and warehouse areas;
- Agree with Tatravagónka conditions under which sorting of already delivered supplies at Tatravagónka can take place;
- Adopt such control and testing provisions that are to guarantee delivery only conforming products to Tatravagónka. Such provisions will remain in effect until elimination of root cause and following testing period.

4.2 PERMANENT CORRECTIVE ACTIONS

When analysis of nonconformity is over the supplier is to adopt such actions that will permanently prevent recurrence of identical fault.

To generate relevant Action Plan of Corrective Actions is preferred to use 8D Report form that must include information as follows:

- Results on identification and origin of nonconformity;
- Provisions to eliminate nonconformity (modification of tool, modification of production steps, introducing Poka-Yoke…);
- Show responsible persons and terms of realization at each particular provision.

5. SUPPLIER'S RESPONSIBILITY

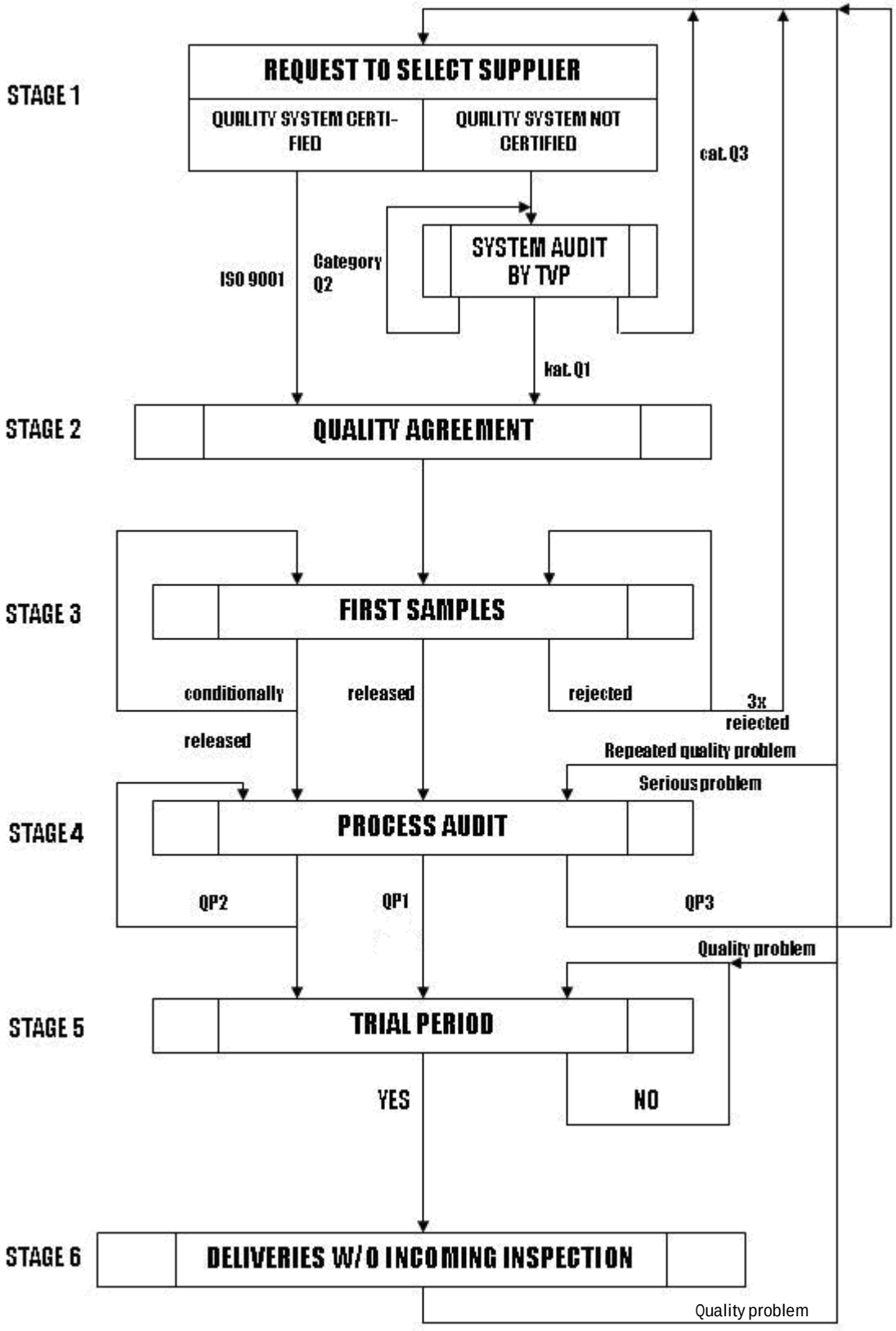
Supplier is fully responsible for quality and safety of delivered products, materials, and services.

Primary production responsibility for purchasing parts used in a final product is fully taken over by supplier or sub-supplier. For quality and safety of delivering products is supplier responsible fully.

Tatravagónka expects from suppliers and sub-suppliers to create such organizational and technical infrastructures that will result in increase of safety of their parts and thus minimize warranty risks for product.

All supplied parts to Tatravagónka must conform to all currently valid laws (such as environment, electricity and magnetism), which take effect in producing and end user countries respectively.

6. FLOW CHART OF SUPPLIERS QUALITY ASSURANCE



RESULT	INTERPRETATION	APPROVAL (PPAP) STATUS
P_{PK} >= 2,0	PROCESS MEETS TATRAVAGÓNKA REQUIREMENTS.	A
P_{PK} >= 1,67	PROCESS PROBABLY MEETS THE TATRAVAGÓNKA REQUIREMENTS. AFTER APPROVAL TO BEGIN WITH PRODUCTION AND FOLLOW APPROVED CONTROL PLAN. REVIEW IS MANDATORY AFTER 90 DAYS AT LATEST.	T1
1,33 < P_{PK} < 1,67	PROCESS MAY NOT MEET TATRAVAGÓNKA REQUIREMENTS. AFTER PART IS APPROVED TO BEGIN WITH ADDITIONAL ATTENTION TO THE CHARACTERISTICS UNTIL ONGOING C_{PK} > 1.5 IS REACHED. REVIEW IS MANDATORY AFTER 90 DAYS AT LATEST.	T2
P_{PK} < 1,33	PROCESS DOES NOT MEET TATRAVAGÓNKA REQUIREMENTS. THE PROCESS MUST BE REVIEWED AND IMPROVED. THE CONTROL PLAN MUST BE REVISED AND ACTION AGREED AND TRACKED.	R

7. PPAP'S STAGES AND REQUIREMENTS FOR THEIR DOCUMENTATION

STAGE 1

Approval process on supplier is triggered by filling out form "PPAP Request on Supplier". Request on and selection of supplier is performed by Purchasing Department of Tatravagónka. Information of result is communicated to PPAP coordinator, who is to fill out the form. Filled out form must indicate required scope of documentation.

Supplier is to take over from Tatravagónka complete documentation necessary to design and plan production process at its facility. Drawings are to be already marked with critical and important characteristics, which has been assigned by Development Department of Tatravagónka, Inc.

Supplier is to fill out "Confirmation Form" that is to hand in to PPAP coordinator of Tatravagónka.

STAGE 2

On basis of marked control characteristics, the requests to test/ verify the status and documenting the check of control characteristics at the supplier's processes are agreed. Agreed facts are recorded in form "Product Quality Plan – Quality Agreement" that is signed by Quality department of Tatravagónka and responsible person on behalf of Supplier.

STAGE 3

Delivery of first samples is performed on basis of order placed by responsible person of Purchasing Department of Tatravagónka. Delivery to Tatravagónka is documented by submitting filled out form "Part Submission Warrant".

First samples represent products and materials that have been produced under conditions of serial production and deploying regular serial production machinery.
Test of the first part before serial production in launched is to provide evidence that all the preset quality requirements have been fulfilled as they are shown in drawings and specifications. Samples must be checked over concerning all the control characteristics, especially critical ones.

First samples are requested in case of:

- New parts;
- Modifications of design, specifications or materials (new status of drawings);
- Transfer, replacement, repair or additional tool;
- Stopped deliveries due to inacceptable quality or for more then 12 months;
- Change in tooling the part.

Supplier is obliged to inform Tatravagónka and launch the stage of a first sample in cases as follows:

- Change of production method or production process;
- Relocation of production or implementing new production machinery;
- Change of sub-suppliers of products (services);
- Stopping the production for longer then 12 months.

First samples have to be delivered with complete testing report performed on reference sample.

Supplier is responsible to perform testing on a sample. Tatravagónka reserves the right of independent testing.
Tatravagónka is to organize Assembly Test of which is to generate "Assembly Test Report". At Assembly Test, the following representatives are obliged to take part:

- PPAP Coordinator;
- Relevant responsible buyer of Purchasing Department;
- Process Owner (Tatravagónka);
- Depending on nature/ complexity of assembly also Industrial Engineer and/or Development Engineer are to take part.

DOCUMENTS REQUESTED FORM SUPPLIER AT THIS STAGE:
First samples:

- Are products or materials produced under conditions of serial production on regular production machinery;
- Quantity is agreed in Order of samples.

Results of check:

- Completely filled out form "Test Results", which shows measuring and checks results;
- Samples are checked out for all control characteristics as marked on drawings and specifications:
  - Dimensions, material, markings, functions, noise level, dust, weight and so on;
  - Individual control characteristics are numbered the way that corresponds with positions in drawing (in case of drawing parts);
- Samples must be marked clearly to be able to guarantee identification of any and all of the measured values;
- Supplier is responsible for correctness of the data; Tatravagónka has no obligation to verify enclosed data.

Drawings for drawing parts:

- Supplier is to number and mark all the measured and checked out characteristics. This numbering must conform to marking of measurement and control results as stated in form "Test Results".

Material attests (Certificate):

- As a part of samples handling the supplier is to supply material attest – Certificate (with indication of chemical, physical and mechanical properties) that conforms to requirements for drawing documentation and specifications.

Result of Quality checks:

- If requirements for properties are more detailed specified in drawing documentation or other specification (coating, anti resistance treatment, flammability and so on) the supplier is to deliver attests with results compulsory tests.

Overall release of reference samples is to be executed by Tatravagónka. On basis of evaluation of test results of samples there shall be adopted one of the following resolutions:

APPROVAL STATUS OF THE FIRST SAMPLES	
U – RELEASED	SAMPLE PARTS RELEASED FOR SERIAL DELIVERIES.
P – CONDITIONALLY RELEASED	DELIVERIES RELEASED FOR SPECIFIED AND LIMITED PERIOD OR FOR SPECIFIED QUANTITY OF PIECES. THERE ARE SPECIFIED REQUIREMENTS FOR SUPPLIER THAT MUST BE COMPLETED TO REACH „U" STATUS. NEW CHECK OF SAMPLES MIGHT BE REQUIRED.
O – REJECTED	DELIVERY OF THE PARTS IS NOT APPROVED. NEW CHECK OF CORRECTED SAMPLES IS REQUIRED.

Decision to release as a result of samples approval procedure does not release supplier from its responsibility for quality of delivering products.

Incompletely filled out reports and/or incomplete deliveries of documentation automatically result in rejection in a samples approval procedure.

Truly requested scope of documentation is governed by primordial conditions confirmed in document "Notification Form". Delivery of first samples including complete documentation against filled out form "Part Submission Warrant" is considered "delivery of PPAP package".

All requested documents that are to be delivered by supplier in accordance with indicated requirements as stated in "PPAP Request on Supplier" have to be delivered to PPAP coordinator at the latest before serial production in Tatravagónka is launched.

STAGE 4 – PROCESS AUDIT

EXTERNAL PROCESS AUDIT AT SUPPLIER

To verify capability of supplier's processes, the appointed auditors for Quality Assurance of Tatravagónka conduct process audit at supplier.

As a general rule, process evaluation takes part under conditions of serial production so there is important that when performing process audit the regular serial production of delivering parts takes place. Process Audit results offer information on quality capabilities of processes and suggest opportunities for improvements.

Supplier is expected to generate the Plan of Corrective Actions (Action Plan) to handle deviations identified during Process Audit.
Process Audit remains valid for 3 years. Reason to repeat process audit before scheduled term might be occurrence of quality problems.

In the frame of quality audits being performed by Tatravagónka at supplier the supplier is obliged to submit information related to organizational layout and quality assurance, safety at work and environment. Further, the supplier is obliged to answer all the questions related to quality assurance when given during the process audit.

Supplier is obliged to enable access of Tatravagónka's representatives to evaluate relevant facts related to degree of quality assurance for product.
Term of the process audit shall be communicated with supplier in sufficient time ahead of scheduled term.
During process audit is supplier requested to perform production of delivering product.

EVALUATION LEVELS OF PROCESS AUDIT			
QP1	>= 90 to 100	PREFERRED	No action plans required. Process is formally approved.
QP2	>= 70 to < 90	ACCEPTABLE	The supplier is requested to submit an improvement plan to move up to the Preferred class.
QP3	< 80%	UNACCEPTABLE	The supplier is requested to promptly submit Corrective Action Plan.

Supplier evaluated as QP3 degree must execute improvement programs within 6 months since the Process Audit Report is deliverd. Supplier should implement Corrective Actions the way that enables to upgrade its classification to degree QP1 or QP2.

QP3 classification is not considered prospective as a supplier for Tatravagónka, Inc.
The coefficient k will be used on basis or evaluation result and it will be a part of overall Supplier capability. In case the Supplier has not been audited yet the k=1 is to be used.

QUALIFICATION DEGREE	QP1	QP2	QP3
COEFFICIENT K	1	0.85	0.5

STAGE 5 – TRIAL PERIOD

The goal is to verify the quality of deliveries of the supplier. Deliveries are subject of systematic check. Trial period takes 3 months and is valid for 6 serial deliveries as minimum. If there is an occurrence of quality incident the trial period is to be repeated.

STAGE 6 – DELIVERIES WITH NO INCOMING INSPECTION

- This status can be reached only by suppliers that have successfully passed previous stages;
- Suppliers are informed of reaching Stage 6. parts being delivered under this status to Tatravagónka are released with no Incoming Inspection;
- Supplier is requested ability to inform or on basis of request to mail records concerning checks or tests;

- Each Quality Incident leads to immediate interruption of incoming inspection free deliveries and repeatedly is introduced Stage 5 – "Trial Period";

- Goal of the strategy is to reach 100% incomings with no need for Incoming Inspection.

8. EVALUATION OF SUPPLIERS

Tatravagónka evaluates capability of its suppliers on monthly basis in the following fields:

QUALITY – PRICE – LOGISTICS – PROCESS AUDIT

Suppliers are informed of reached results on yearly basis. Reached results are delivered to 10 TOP WORSE suppliers on monthly basis.

Q – EVALUATION IN QUALITY FIELD

Criterion to evaluate Quality are: PPM, %BK (parts with no incoming inspection), and IK (occurrence of Quality Incident).

8.1 PPM INDEX

PPM is calculated according to the following formula:

$$PPM = \frac{\text{Number of faulty pieces (for given period)}}{\text{Number of delivered pieces (for given period)}} \times 10^6$$

PPM is calculated together for all delivered parts of all the items from the same supplier for a given period.

PRELIMINARY PPM

Is being calculated out of total delivered units and number of registered faulty pieces as recorded by PSM report process at Tatravagónka since the beginning of the year till the given date. First quality record does not have to include all the details concerning the real number of faulty pieces. That is why this PPM rating is considered as preliminary.

OFFICIAL PPM

Value of PPM is to be calculated within 3 months since the recorded occurrence of the failure delivery. This time period should be sufficient to analyze the problem and handle the agenda in details as far as faulty pieces are concerned.

Preliminary PPM will be announced to particular supplier by relevant buyer of Purchasing Department. Such a way the supplier gets 3 months to take care of the problem and possible correction of data. After 3 months period expires the PPM value is considered official.

TARGET PPM – DEMANDED VALUE

General value requested from supplier is 1 000 PPM unless no other value is mutually agreed.

ACCEPTED PPM – LIMIT VALUE

Represents upper limit of PPM that is still acceptable but when reached Tatravagónka reserves the right to execute the sanction (such as individual discount off the unit price, single time sanction...).

EXCEEDING ACCEPTED LEVEL

Deliveries are frozen and sanctions are applied.

8.2 IK INDEX – QUALITY INCIDENT

Incident – as incident is considered rejecting the whole batch and subsequent claim to supplier (such as returned to sort, sorting on expenses of supplier and so on).

One rejected batch is considered one incident.

8.3 OVERALL INDEX Q

$$Q = PPM \times IK$$

INDEX	EVALUATION
PPM	o 100 points, if PPM for evaluated month equals „0“ o Proportionally, if PPM for evaluated month lies between 0 and target o 0 points, if PPM for given month is higher then target
IK	o 1 = no incident for evaluated month o 0,6 = 1 incident for evaluated month o 0,3 = 2 incidents for evaluated month o 0 = more then 2 incidents for evaluated month

8.4 EVALUATION IN THE FIELD OF LOGISTICS

Stability of Deliveries index (SD).

Delivery is considered fulfilled when it meets the ordered quantity and is executed in term agreed between Purchasing Department of Tatravagónka and Supplier (day, week, and month).

$$SD = \frac{\text{Number of fulfilled deliveries (for a given period)}}{\text{Number of requested deliveries (for a given period)}} \times 100$$

INDEX	EVALUATION
Stability of deliveries SD per evaluated period	o 30 points, is stability of deliveries is 100% o Proportional decrease (linear), if SD falls between 80 – 100% o 0 points, if SD is under 80%

8.5 C - EVALUATION IN THE FIELD OF COSTS

EVALUATION – MANNER OF CALCULATION	
30 points	If there is general decrease of price arranged by supplier that gets decreased by 3% from one year to another
Proportional (linear) decrease	If there is decrease of price for new year between > 0% < 3%
0 points	If there is no price down for a new year

8.6 TS – TECHNICAL COOPERATION LEVEL

Is evaluated quarterly at Tatravagónka by internally appointed group.

CRITERIONS: IMPLEMENTATION OF NEW PRODUCTS – AUDITS – INTEGRITY OF SUPPLIERS
Maximally reachable number of points – 40.

Criterions to evaluate technical cooperation:

- Above standard quality certification (VDA, TS) - 15 points
- Certified quality system ISO 9001 - 9 points
- Good will to cooperate (negotiating contracts, attests) - 8 points
- Reaction on changes and claims (orders...) – 8 points

8.7 CH OVERALL EVALUATION OF CAPABILITY OF SUPPLIER

$$CH = \frac{(Q + SD + C + TS) \times k}{2}$$

According to results reached during evaluation process the suppliers are distributed to categories as follows:

Category	Evaluation	Comment
Q1	Capable	Reached result >= 90 points
Q2	Capable with comment	Reached result >= 75 and < 90 points. Supplier is requested to develop and adopt corrective action completion of which will create opportunity to reach category „Q1". Delivery of Corrective Actions Plan is not mandatory.
Q3	Conditionally Capable	Reached result < 75 points Supplier is obliged to submit Corrective Actions Plan to upgrade to category "Q1" or „Q2".

Enclosures: Package of PPAP forms