APPROVED BY
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JOINT-STOCK COMPANY

BELCARD

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Quality Assurance Guidelines
for Suppliers

Grodno, 2021

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1 Terms and definitions

1.1 sampling: one or more sample units taken from a batch

1.2 part submission warrant (PSW): an industry standard document required for approval of all newly manufactured or modified products, in which the organization confirms that the inspection and testing of manufactured parts meets customer requirements.

1.3 identification: a procedure by which a unique correspondence of a product unit is established: product name, technological operations, shifts, control date, performer, shipment batch numbers, transport documents.

1.4 process flow diagram: a schematic representation of the process flow.

1.5 control diagram: a graphical representation of the process characteristic showing plotted values of some of the statistics for that characteristic, center line and control limits.

1.6 control sample: a sample of a component item stored at Belcard OJSC, Grodno during the entire period of product approval validity.

1.7 management plan: a documented description of the systems and processes required to control the manufacture of the product at the stages of prototyping, development batch, production in operation.

1.8 supplier (provider): an organization that supplies a product or provides a service.

1.9 consumer representative: a specialist of the organization appointed by the director of the organization, representing the interests of the consumer and acting as an intermediary between Belcard OJSC and consumers.

1.10 traceability: an ability to trace the history, application, or location of what is being considered.

1.11 special characteristic: a classification of a product characteristic or manufacturing parameter that may have an impact on safety or regulatory compliance, setting, function, performance, requirements or subsequent product processing.

1.12 sub-supplier: a supplier of the supplier, i.e. a legal entity or an entrepreneur without the formation of a legal entity, which under the contract has undertaken to manufacture certain products, materials, semi-finished products or spare parts used by the supplier for the manufacture of products supplied to Belcard OJSC, Grodno.

1.13 level of presentation: a set of documents, product samples used to determine the conformity of the quality of the supplied products to the requirements of the consumer.

1.14 FMEA: an analytical methodology used to provide confidence that potential issues throughout the product development process and manufacturing technology are considered and studied.

2 Symbols and abbreviations

The following symbols and abbreviations are used in the guidelines:

DD – design documentation;

CD2 – controlled deliveries of the 2nd level;

CR3 – controlled refits;

PFD – process flow diagram;

CR – consumer representative;

MP – management plan;

QMS – quality management system;

TC – technical conditions;

C&M – commodities and materials;

8D – method for solving quality problems;

APQP – advanced product quality planning;

DFMEA – design failure mode and effects analysis;

IATF – international automotive task force;

FMEA – failure modes and effects analysis;

FIFO – method of material flow management based on the "first-in first-out" principle;

PFMEA – process failure modes and effects analysis;

PPAP – part production approval process;

ppm – unit for measuring the level of defectiveness (the number of defective items per million delivered products);

PSW – part submission warrant;

SPC – statistical process control;

MSA – measurement systems analysis;

GRR – gage repeatability and reproducibility;

ndc – number of distinct data categories;

$\overline{X}$ – average value in a subgroup;

C_p, C_{pk} – process reproducibility indices;

P_p, P_{pk} – process suitability indices.

3 General requirements

3.1 Processes of interaction with the supplier

The guidelines establish requirements for suppliers of metal, materials, components, the fulfillment of which is mandatory for access to the supply of products to Belcard OJSC, Grodno (hereinafter referred to as Belcard OJSC).

Belcard OJSC reserves the right to annually revise the established requirements, make changes and additions to them.

The purpose of the Quality Assurance Guidelines for Suppliers is to define the requirements for the supplier's quality management system, product compliance with established requirements, apply a non-compliance containment process for first deliveries, rules for conducting second-party audits with the possible participation of a consumer representative, fulfillment of conditions for timely delivery and volume of products, mutually beneficial pricing policy and development of long-term relationships with suppliers.

The requirements are based on the requirements of the ISO 9001 (STB ISO 9001) IATF 16949, STB 16949 standards, the standard supply agreement of Belcard OJSC and are aimed at achieving the purposes of Belcard OJSC to improve the quality and technical characteristics of products that meet the requirements and expectations of the buyer.

In order to ensure the efficiency of informational interaction, the supplier is obliged to ensure the possibility of data exchange and to approve the transmission format via e-mail and phones.

For ensuring the process of data exchange with Belcard OJSC, the supplier is responsible for the following activities:

agreeing on the choice of a consumer representative and a permanent e-mail address, phone number, to provide feedback;

promptly informing about the change of the e-mail address and/or the consumer representative;

sending documents and other reports by e-mail to Belcard OJSC at the request of the consumer.

Contact information of Belcard OJSC: website: http://www.belcard-grodno.com

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phone +375 (0152) 528-388 Head of the Procurement Department – Mikhail Dislavovich Ganetsky;

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3.2 Requirements for the development of the suppliers' quality management system

The purpose of the suppliers' QMS development is to certify the suppliers' quality management system for compliance with the requirements of ISO 9001 (STB ISO 9001), IATF 16949, STB 16949.

Product suppliers are obliged to implement, maintain and improve the QMS, the QMS must be certified for compliance with the requirements of ISO 9001 (STB ISO 9001), with the ultimate goal of becoming a supplier certified for compliance with the requirements of the international automotive industry standard IATF 16949.

For each supplier the minimum acceptable level of quality management system development and the target level of quality management system development are determined using risk analysis.

The initial minimum acceptable level of development is QMS certification for compliance with ISO 9001 (STB ISO 9001).

The following sequence is applied to implement and improve the QMS:

- ISO 9001 (STB ISO 9001) certification through third party audits, suppliers must demonstrate compliance with ISO 9001 (STB ISO 9001) requirements while maintaining third party certification from a certification body that holds the accreditation mark of a recognized member of the International Accreditation Forum with Multilateral Recognition Arrangement (IAF MLA) and if the main scope of the accreditation body includes certification of management systems under ISO/IEC 17021;
- certification under ISO 9001 (STB ISO 9001) in accordance with other QMS requirements (for example, Minimum Automotive Quality Management System Requirements for Sub-Tier Suppliers [MAQMSR] or similar requirements) through second party audits;
- certification according to ISO 9001 (STB ISO 9001) with compliance with IATF 16949, STB 6949 through second party audits;
- certification according to IATF 16949, STB16949 by means of third party audits (valid third party certification according to IATF 16949 by a certification body recognized by IATF).

3.3 Supplier audit

Supplier audits are carried out in order to obtain confidence that the products manufactured by the supplier organization meet the established requirements, the quality is stable and the QMS operating in the organization contributes to the continuous improvement of product quality.

Audits can be carried out both at permanent and potential suppliers, including audits before the conclusion of an agreement (contract).

Audits can be performed:

at the stage of choosing a supplier;

when systemic problems appear.

The audit criteria are drawn up taking into account the requirements of ISO 9001 (STB ISO 9001), IATF 16949, STB 16949, the requirements of Belcard OJSC.

Every year Belcard OJSC draws up a list of suppliers to be audited.

Suppliers are subject to audit in the following cases:

increase in the number of consumer complaints about Belcard OJSC products through the fault of the supplier;

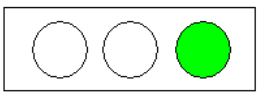
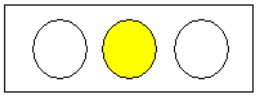
failure to meet the established level of defectiveness during the incoming control;

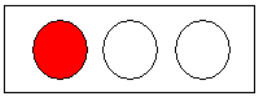
absence of a QMS certificate of conformity for compliance with the requirements of IATF 16949, STB 16949.

An unscheduled audit is performed on the basis of a documented decision of the top management in cases of an increase in the number of consumer complaints in relation to Belcard products due to the fault of suppliers, excess of the established level of defectiveness during incoming control and in the production process, when alternative suppliers appear.

The audit criteria are drawn up and included in the checklist based on the requirements of the ISO 9001 (STB ISO 9001), IATF 16949, STB 16949 standards, the policies and quality objectives of Belcard OJSC. The assessment of each criterion is determined on a scale of satisfaction in points (0 to 5). Based on the results of the audit, the level of compliance of each section and the overall level of supplier compliance are calculated. Compliance level and supplier category are determined in accordance with Table 1.

Table 1 – Supplier Category and Compliance Level

Supplier category	Compliance level, point	Terms and conditions of cooperation	
		with an existing supplier	with a potential supplier
1	2	3	4
reliable 	70 to 110	strategic partnership is recommended	strategic partnership is recommended
satisfactory 	40 to 69	further cooperation is possible; revision of supply volumes downwards (refusal to increase the nomenclature volumes); re-assessment after corrective actions	cooperation is possible after the requirements of Belcard OJSC are met; re-assessment after corrective actions

1	2	3	4
unsatisfactory 	0 to 39	search for alternative suppliers for the transfer of procurement volumes; cooperation is impossible	cooperation is impossible

3.4 Termination of interaction with the supplier

A supplier with the "red" development level is working on the implementation of the checklist requirements. Belcard OJSC conducts an audit of the supplier in 6 months. If there are no improvements based on the audit results Belcard OJSC revises the volume of orders downward, up to a complete refusal to purchase.

3.5 Requirements to the consumer representative

The top management of the supplier must appoint a CR, having agreed the candidate with Belcard OJSC.

The CR must ensure accounting, fulfillment and consideration of the requirements of Belcard OJSC. The necessary powers must be delegated to the CR by an organizational and administrative document. The CR approval is performed for one supplier organization.

The CR is assigned for:

- participation in the discussion of draft contracts for the supply of products in terms of clarity and completeness of the consumer requirement reflection, participation in projects for long-term planning of the quality of new products;
- coordination of activities of divisions and participation in control over the fulfillment of established consumer requirements at all stages of the processes of manufacturing products and supplies;
- control over the monitoring of the consumer satisfaction degree;
- participation in the coordination of special characteristics of products and production processes;
- control over the manufacturing process;
- organization of the process of information exchange with the consumer, informing the consumer about changes in the product and process, production using bypass technologies;
- monitoring of the information on the quality of manufactured products from the production site.
- control over the development of corrective and preventive actions in response to comments and claims of Belcard OJSC, their implementation in a timely manner and notifications;
- implementation of the production approval process, interaction with Belcard OJSC in the event of complaints, solution of product quality problems.

– initiation of production suspension to prevent the release of nonconforming products;

– approval of permits for deviation of product characteristics with Belcard OJSC; initiation, participation in determining the training needs of the Supplier's personnel, control of planning and conducting personnel training on the implementation of customer requirements.

3.6 Supplier assessment

Belcard OJSC cooperates with reliable suppliers who work on continuous improvement of products and processes by introducing new technologies, using innovative ideas and clear understanding of the sources of expenses, forming the basis for joint success with Belcard OJSC.

Depending on the category assigned to the supplier Belcard OJSC decides on further cooperation.

Suppliers are subject to initial and periodic evaluations.

Basing on the assessment results Belcard OJSC has the right to:

- publish the rating of the best suppliers on the Internet at www.belcard-grodno.com;
- cancel incoming control (in the absence of defects in C&M);
- change plans for incoming control;
- audit the supplier;
- decrease the volume of the order using alternative suppliers;
- warn the supplier about the possibility of terminating the contract and terminate the contract;
- control 100 % of products at the expense of the supplier;
- apply penalties for the supply of nonconforming products;
- refuse to cooperate with the supplier.

In the event that small volumes of products are purchased from the supplier and/or the costs of conducting an audit of the second party lead to a loss of economic feasibility of procurement, then a self-assessment questionnaire is sent to the supplier in accordance with Annex A.

3.7 Work with sub-supplier

The supplier should make efforts to oblige its sub-suppliers to comply with the obligations assumed by the supplier under the agreement between the supplier and Belcard OJSC. If the supplier is unable to ensure that the sub-suppliers comply with these obligations, the supplier informs Belcard OJSC about this, and the contract partners jointly seek a solution that suits both parties.

The supplier shall bear full responsibility for the quality of the delivery of products from the sub-supplier to Belcard OJSC.

If necessary, at the request of Belcard OJSC the supplier must provide the results of audits of sub-suppliers.

4 Processes for creating quality

4.1 Prospective product quality planning

At the request of Belcard OJSC, the design of new products and the development (change) of production processes shall be carried out within the projects using the APQP guidelines.

The APQP guidelines shall be applied by the supplier (manufacturer):

when designing and (or) preparing for the production of new components and assemblies;

when modernizing components, assemblies and units and (or) production.

The purpose of using APQP is to plan quality and achieve quality indicators for products and manufacturing processes with execution on time at an acceptable cost.

APQP includes the following stages:

1. Planning and definition of the program.
2. Design and development of products.
3. Design and development of processes.
4. Validation of products and processes.
5. Feedback, evaluation and corrective action.

For each new product (product line) a separate project is organized with an appointed manager from the supplier's side and a responsible person from Belcard OJSC.

The project manager, regardless of current responsibilities, duties and authorities, shall be responsible for:

- coordination of the project goals with Belcard OJSC;
- development of a schedule for the implementation of the project;
- coordination of the schedule of the APQP project with Belcard OJSC;
- regular monitoring of the project progress by key milestones;
- management of interrelated groups involved in the project;
- organization of change management during design and development.

A contact list with the coordinates of the project manager and the main team members shall be sent to Belcard OJSC.

The scope of tasks of the APQP project, as well as the timing of the key project phases must be agreed with Belcard OJSC. The CR must send to Belcard OJSC the schedule plan of the project.

At the request of Belcard OJSC, objective evidence of the implementation of the key project phases shall be provided.

Representatives of Belcard OJSC can conduct audits of the APQP project progress, about which they shall inform the CR in advance. The supplier shall provide such opportunity upon receipt of a request for an APQP project and ensure that the customer auditors will be accompanied throughout the audit.

Belcard OJSC shall be informed in the following cases (if applicable):

- changes in the agreed terms for the key project phases;
- changes to a previously agreed design;
- change of production place;
- modification of the previously agreed management plan.

4.2 Failure modes and effects analysis

FMEA shall be conducted by the supplier in the following cases:

- new design/process;
- new application of an existing design/process;
- changes to an existing design or process;
- request of Belcard OJSC for PPAP documents;
- implementation of the principle of continuous improvement of product quality.

FMEA (design – DFMEA/process – PFMEA) is carried out with the aim of analyzing and improving the design, manufacturing process to prevent the occurrence and/or to mitigate the severity of potential consequences of potential failures and to achieve the required characteristics of safety, reliability and environmental friendliness.

DFMEA and PFMEA are documented in accordance with the latest version of the FMEA Reference Manual.

After the DFMEA and PFMEA, special characteristics can be determined in addition to those previously highlighted by Belcard OJSC. All certain special characteristics shall be entered into the list of special characteristics in the form agreed with Belcard OJSC. The list of special characteristics (regardless of who assigned the special characteristics) must be agreed upon between the supplier and Belcard OJSC.

Special characteristics must be identified and entered into the DD. The DD shall without fail be agreed between the supplier and the consumer. The following symbols of special characteristics are installed for Belcard OJSC suppliers:

§ – safety characteristic;

! – legislative characteristic;

δ – significant characteristic.

The supplier can establish own symbols of special characteristics for internal use, while the technical documentation provided by the supplier to Belcard OJSC must contain symbols of special characteristics established by the guidelines.

4.3 Measurement systems analysis

The MSA purpose is to determine the acceptability of the measurement system used to meet the accuracy requirements for measurements performed during production and product performance control.

The MSA is carried out by the supplier (manufacturer) as part of the APQP procedure or at the request of Belcard OJSC, at least in relation to the measurement systems used to control special characteristics.

In order to confirm the conformity of the measurement system, the supplier (manufacturer) shall apply methods in accordance with the latest revision of the MSA AIAG guidelines.

During the MSA, all measuring instruments used in the measurement process must be verified (calibrated).

The minimum requirements for validation of a measurement system based on quantitative data are the repeatability and reproducibility score (%, GRR) and the number of distinct data categories (ndc).

According to the ndc, the measurement system is evaluated as follows:

- ndc greater than 5 – high resolution of the measurement system (provides the ability to calculate the parameters describing the process stability);
- ndc from 2 to 5 – average resolution of the measurement system (can be used for parameters with low variability compared to the tolerance);
- ndc less than 2 – low resolution of the measurement system (suitable for identifying defective parts).

The assessment of the criteria in accordance with the MSA AIAG guidelines is the confirmation of the conformity of a measurement system based on measurements on an alternative basis.

The conducted assessment is documented in a protocol, which must contain a conclusion on the acceptability (unacceptability) of the measurement system.

4.4 Laboratory requirements

Requirements for the laboratory (internal, external) are established in accordance with clauses 7.1.5.3.1, 7.1.5.3.2 IATF 16949, STB 16949.

4.5 Statistical process control

Statistical methods for production process research and management are based on building control charts ($\overline{X}$ – R-charts), assessing the process stability and calculating the indices of process reproducibility and suitability, and are used by the supplier (manufacturer) as a part of the APQP procedure or at the request of Belcard OJSC.

In accordance with the guidelines "Statistical Process Control (SPC)", 2nd edition, other types of control charts can be used instead of the $\overline{X}$ – R-chart, if necessary.

Statistical methods for production process research and management generally include preliminary study of the process capabilities and statistical process control.

In order to determine the process capabilities, its stability studies and the calculation of reproducibility or suitability indices are carried out in accordance with the SPC guidelines.

Control charts are a tool for assessing the technological process stability.

The investigated process is assessed for stability in the absence of the following signs of instability:

- points (1 or more) outside the control boundaries;
- series of points (7 points in a row on one side of the mean value, 7 points in a row increase or decrease in succession);
- non-random behavior of process data, which can be expressed through obvious trends, cycles, general spread of points within control boundaries or interdependence of values in subgroups.

If, based on the control chart analysis results, the technological process is found to be unstable, measures shall be taken to identify and eliminate the specific causes of variability. Special causes of variability shall be identified and eliminated as soon as possible by a worker, foreman, technologist or other personnel within their competence and authority.

Examples of specific causes of variability:

- failure of equipment modes (settings);
- unplanned replacement of an operator or a controller;
- replacement of the supplier of raw materials/materials.

After elimination of specific causes, the process is retested for stability.

A process recognized as stable is further evaluated for reproducibility, and an unstable process is evaluated for suitability.

In order to assess reproducibility/suitability, the following values of reproducibility indices (C_p, $C_{pк}$) or suitability indices (P_p, $P_{pк}$) are used:

- C_p, $C_{pк}$ (P_p, $P_{pк}$) >1.67 – the process meets the acceptance criteria;
- $1.33 \leq C_p$, $C_{pк}$ (P_p, $P_{pк}$) ≤ 1.67 – the process can be accepted for operation upon agreement with Belcard OJSC;
- C_p, Cpк (P_p, $P_{pк}$) < 1.33 – the process does not meet the acceptance criteria.

If the indicators deviate from the established requirements, it is necessary to bring the process to an appropriate state, or, enhanced control (100 % control) is introduced, measures are developed to bring the process to an appropriate state, indicating the timing and responsible persons.

The process feasibility study carried out shall be documented in the form of an SPC card according to the SPC guidelines. The SPC must contain, inter alia, reproducibility/suitability index values.

4.6 Part production approval process

4.6.1 PPAP triggering cases

PPAP is used in the following cases:

1) at the request of Belcard OJSC;
2) production preparation by the supplier of new products, previously not supplied to Belcard OJSC;
3) elimination of discrepancies with a part of previously presented products;
4) making technical changes to design data, specifications or materials;
5) making changes in design and technological process related to products manufactured by the supplier or sub-suppliers;
6) manufacture of products using new or modified tools (excluding standard tools and measuring instruments) and print fittings (excluding fast wearing), molds, etc., including auxiliary or refurbished tooling;
7) after repair or reassembly of existing tooling or equipment;
8) if production is transferred to another production site;
9) change of the sub-supplier of products, basic materials and technological services (for example, heat treatment, coating);
10) changes in test/measurement/control methods for finished products – a new methodology (without affecting the acceptance criteria);
11) resumption of production after a significant break (more than 12 months);

4.6.2 PPAP submission levels

The supplier shall send samples and documents to Belcard OJSC in accordance with the assigned level of submission. There are five levels of submission of documents and samples that characterize the production of products, which are presented in Table 2.

The composition of documents and samples provided to the consumer is presented in Table 2.

Table 2

Submission level number	PPAP set contents
level 1	Application only. For products that determine the appearance, an additional appearance approval report is needed.
level 2	Application with product samples and a limited set of supporting data
level 3	Application with product samples and a full set of supporting data
level 4	Application and other requirements specified by the customer.
level 5	Application with product samples and a full set of supporting data verified with the supplier at the production place.

The composition of the documents and images provided to the consumer are shown in Table 3.

Table 3

PPAP certificates	**Levels of certificate submission**				
	1	**2**	**3**	**4**	**5**
1. Design data	R	S	S	*	R
• for own components/parts	R	R	R	*	R
• for all other components/parts	R	S	S	*	R
2. Documents of technical changes, if any	R	S	S	*	R
3. Technical approval by the consumer, if required	R	R	S	*	R
4. FMEA constructions	R	R	S	*	R
5. Process flow diagrams	R	R	S	*	R
6. FMEA process	R	R	S	*	R
7. Management plan	R	R	S	*	R
8. MSA research	R	R	S	*	R
9. Measurement results	R	S	S	*	R

10. Results of tests of materials, technical characteristics	R	S	S	*	R
11. Initial process investigation	R	R	S	*	R
12. Documents of the specialized laboratory	R	S	S	*	R
13. Appearance approval report (AAR), if applicable	S	S	S	*	R
14. Product sample	R	S	S	*	R
15. Control sample	R	R	R	*	R
16. Control means	R	R	R	*	R
17. Data on compliance with the special requirements of the consumer: - certificates of approval of the production sites of sub-suppliers	R	R	S	*	R
18. Part submission warrant (PSW); non-piece production requirements checklist	S	S	S	S	R
	S	S	S	S	R

Designation:

S – the supplier must submit to Belcard OJSC and keep a copy of the data and documentation at the relevant sites.

R – the supplier must keep the documentation at the relevant sites and make it available at the request of Belcard OJSC.

** – the supplier must keep the documentation at the relevant sites and present it to the consumer upon request.*

Initially, Belcard OJSC establishes the third level of submission of PPAP documents for existing suppliers. For approved product suppliers offering new products, Belcard OJSC may define a presentation level that is different from the initial level.

4.6.3 Certificate submission and PPAP approval procedures

In order to go through the PPAP process, the supplier shall send a letter to Belcard OJSC about the intention to go through the production approval procedure.

Belcard OJSC shall send a response to the supplier, in which it shall assign the level of presentation of samples and documents, within seven days.

In accordance with the assigned PPAP submission level, the supplier shall send an electronic archive with copies of documents (the files shall be named in accordance with the affiliation) in accordance with the assigned PPAP submission level to the e-mail (with the delivery notification) specified in section 3.1.

Belcard OJSC shall accept a package of documents and give a message to the supplier about the acceptance of documents for work within three (3) working days.

If the package of documents is not accepted (the composition of the documents does not correspond to the level of submission, the application is completed with errors), a corresponding message shall be sent to the supplier. The supplier is obliged to eliminate the faults noted in the comments within five working days, otherwise the entire package of documents shall be returned to the supplier.

Based on the results of the evaluation of the PPAP certificates, Belcard OJSC shall inform the supplier about the received approval status.

The number of days during which Belcard OJSC sends an application to the supplier with the decision shall not exceed 25 working days from the date of acceptance of the PPAP certificates into operation.

4.6.4 Approval status

Basing on the results of the analysis of the PPAP certificates, the following decisions are made: full approval, temporary approval or rejection.

Temporary approval:

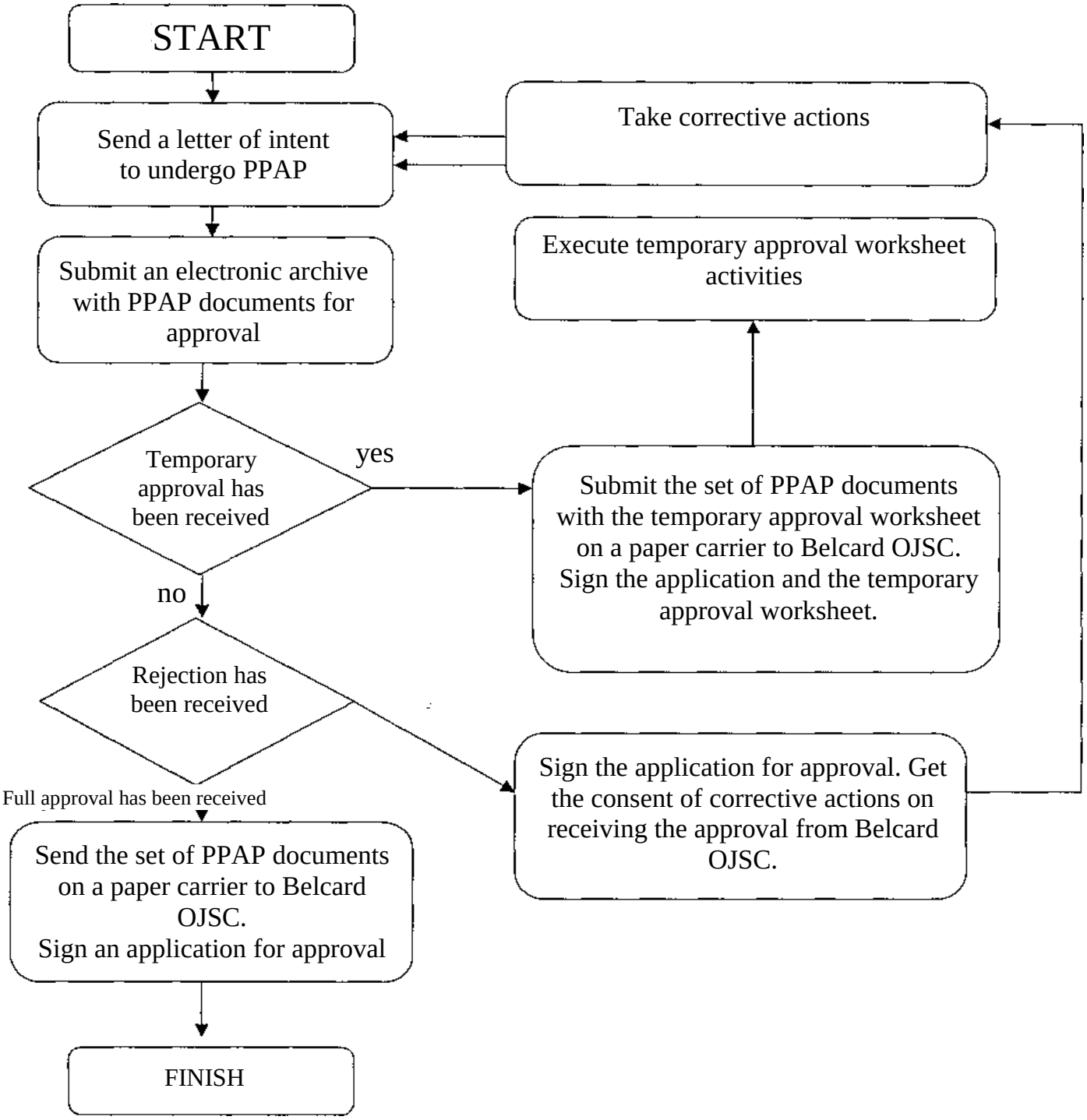
Temporary approval means that not all submitted reports and data meet the requirements of Belcard OJSC and/or the products have non-critical deviations from the requirements of the agreed specification. If temporary approval is received, volume and time limited product delivery is permitted. Products with a “temporary approval” status are not considered as products with a “full approval”.

Temporary approval can be given if the supplier:

- clearly identified the root cause of the inconsistencies that prevented approval;
- prepared a corrective action plan agreed with Belcard OJSC;
- applied a plan of restraining measures for the period of implementation of changes agreed with Belcard OJSC (if necessary);
- agreed with Belcard OJSC the date of re-submission of PPAP certificates, which should be earlier than the end of the temporary approval period.

Full approval means that the products, including all subcomponents, as well as all the data and documents provided, meet all the requirements of Belcard OJSC. If full approval is received, the supply of products is permitted.

Full approval:



Rejection:

Rejection means that the production batch on the basis of which the submission was made and the accompanying documentation do not meet the customer's requirements.

If “rejection” is received, the product delivery is not permitted until a “temporary” or “full” approval is received. If a “rejection” is received, the supplier shall agree on a corrective action plan, after which the approval procedure can be resumed. In case of

repeated “rejection”, Belcard OJSC has the right to make a decision to terminate the work on PPAP review of this product from the supplier.

If problems with the quality of a part are revealed during serial deliveries, it is allowed to assign the "rejected" status to the previously issued approval. In order to resume deliveries to Belcard OJSC, the supplier shall repeat the approval procedure at the level of submission of a set of documents and part samples designated by the buyer.

4.6.5 Data storage

After receiving the approval by the consumer, the set of documents and control samples must be kept by the supplier until the receipt of a written instruction from Belcard OJSC on the expiry of the validity period of the approval or until the expiration of the validity period of the temporary approval plus one calendar year.

5 Management of nonconforming products

The supplier shall maintain a traceability system to ensure the possibility of:

- determination of the place and time of the non-compliance, the executor (operator) who performed the operation that resulted in the non-compliance;
- determination of the location of the entire batch of parts with the identified non-compliance;
- separation, isolation and accounting of nonconforming products;
- prompt and systematic analysis of the causes of non-compliance and development of corrective actions;
- ensuring control over the balance of parts (assembly units) along the entire route of their movement in production;
- elimination of concealment of nonconforming products and shortages, writing up false output volumes and other abuses;
- establishment of responsible persons associated with operations for the receipt and issue of parts;
- improvement of the operational and production planning quality.

Traceability is achieved through marking, introduction of accompanying labels with the registration of information in them along the entire technological chain of parts manufacture from the receipt of metal, materials and components to the organization to packaging and dispatch of finished products.

The supplier shall document procedures of storage and identification of nonconforming products.

The supplier's documented procedure shall define a method for identifying nonconforming product for each stage of the life cycle.

5.1 Procedure for solving product quality problems according to the 8D method

Upon receipt of information on the identification of deviations from the DD/TC, etc. of the supplied products, the supplier shall promptly take actions in production according to the 8D method.

The 8D method is used in the following cases:

- fulfillment of specific customer requirements (processing of complaints using the 8D method, identification of non-compliance in the process of customer audit, etc.);

- consumer's request for corrective actions using the 8D method for product non-compliance identified during delivery (inspection), during assembly and testing in production (zero mileage) at the consumer, or during the warranty period of product operation;

- identification of non-compliance in the acceptance tests;

- re-identification of product non-compliance during production, for which corrective actions were carried out, but they were not effective and the non-compliance cause was not eliminated;

- repetition of a product defect in the consumer's case if previously implemented measures are ineffective/have no result.

It is allowed to use the 8D method at the initial detection of non-compliance in the products manufacturing process.

The method is based on the following principles:

fact-based system: a system that relies on real data in solving problems, finding solutions and planning, and is tracked through data collection;

elimination of the root cause: the problem solving process is different in that it removes not only the consequences of the problem, but also the root cause.

The 8D problem solving method is based on the following principles:

teamwork;

complete succession of stages: the results or outputs of the previous stage are the inputs of the next one;

documented results at each stage/step;

management support.

The 8D method includes the following sequentially implemented stages:

D 0 – problem notification;

D 1 – team formation;

D 2 – defect description;

D 3 – urgent and deterrent actions;

D 4 – determination of defect causes;

D 5 – development of corrective actions;

D 6 – implementation and assessment of the corrective action effectiveness;

D 7 – change in documentation and dissemination of actions (preventive actions);

D 8 – recognition of results (evaluation of the work done).

In the process of implementing the stages, a report is drawn up on solving problems in the form of Annex B. When preparing a report under form 8D, all lines should be filled out. Reports are sent to the department that has requested activities in the amount of 8D for approval and monitoring of the stage/step implementation timing. An example of filling out and instructions for filling out an 8D report are given in Annexes C, D.

The stages and 8D methodology report are conventionally divided into three stages of problem solving. Stages, goals and implementation timing are shown in Table 4.

Table 4

Stage	Report	Step 8D	Stage objectives	Implementation timing
Understanding of the problem, prompt response and containment, organization of work on the implementation of stages in production	1	D1, D2, D3 rapid response steps	Prevent recurrence of problems and ensure the consumer is confident in reliable protection for the entire period until the causes are eliminated	no more than twenty-four (24) hours, unless otherwise established by the consumer
Determination of causes and development of corrective actions	2	D4, D5 steps of cause analysis and elimination	Develop effective measures to eliminate the root cause, demonstrate the adequacy and complexity of the developed	no more than ten (10) working days, unless otherwise established by the
Implementation of corrective actions and effectiveness evaluation	3	D6, D7, D8 steps of dissemination, decision and experience accumulation	qualitatively implement the planned measures, validate them for "durability" and justify the removal of containment. Provide confidence that the problem does not recur.	no more than twenty (20) working days

5.2 Controlled delivery process

If nonconforming products that have deviations in quality at the incoming inspection, assembly, testing and operation, are detected, Belcard OJSC has the right to decide on the organization of 100 % control of the specified product characteristics on the territory of the

organization by a third party (hereinafter referred to as the controlled delivery of the 2nd level), of which the supplier shall be notified two (2) days before the beginning of control. In order to implement the controlled delivery of the 2nd level (CD2), the supplier must conclude an agreement for the provision of services with a company approved by Belcard OJSC.If the supplier refuses to apply the CD2 mode, Belcard OJSC has the right to:

use controlled deliveries to organize 100 % control of the supplier's products on the territory of Belcard OJSC with reimbursement of costs for the CD2 implementation by reducing the amount of accounts payable of Belcard OJSC to the supplier;

suspend further purchases of products from the supplier and initiate the search for new suppliers for the entire range of products supplied by the supplier.

CD2 assumes the introduction of an additional product control process according to the established characteristics at the request of Belcard OJSC to the supplier, while simultaneously implementing the process of eliminating the root cause of the problem. Additional control is organized in excess of the normal control (previously provided by the technology).

CD2 includes:

- restraining measures carried out by the organization's personnel at its own expense;
- 100 % output control of products by a representative of the controlled delivery contractor (CDC);
- the process of eliminating the problem with product quality.

Only CDC can perform CD2. CDC product control data provide evidence of the effectiveness of the organization's containment process for nonconforming products.

CD2 is initiated two (2) days prior to the beginning of containment.

Supplier responsibility:

- to send the "Response" to Belcard OJSC;
- in case of disagreement with the requirement to initiate the CD2 mode, to contact Belcard OJSC and to provide objective evidence indicating the lack of data to enter the CD2 mode;
- to carry out preparatory work for the CD2 mode start (introduction/ revision of containment measures, inventory verification);
- to immediately determine a separate zone for holding restraining measures at the enterprise, which suits Belcard OJSC;
- to immediately define a separate area for control and provide the CDC representatives with certified control means, a description of control methods agreed with Belcard OJSC and equipped with a control place (work tables, sufficient lighting);
- to agree with Belcard OJSC a method for identifying products that have passed control in the CD2 mode;
- to conclude an agreement with the CDC approved by Belcard OJSC;

- to evaluate the suitability of control methods. In case of confirmation of the inappropriateness of control methods, the supplier must arrange a 3-party agreement on suitable control methods between Belcard OJSC, the supplier and the controlled deliveries contractor;

- to collect and analyze data on the defectiveness of products in the area of the supplier's containment measures (product control by the supplier's personnel);

- to develop and implement actions in accordance with the 8D methodology;

- to agree the 8D action plans with the CDC;

- to send the 8D action plans approved by the CDC to Belcard OJSC;

- to send the 8D action implementation report to Belcard OJSC with an agreed frequency;

- to hold daily meetings at the production site to review the results of measures taken or to plan the necessary changes;

- to make changes to the documentation (MP, PFMEA, PFD, standardized work instructions, etc.);

- to draw up daily the results of product control in the area of supplier's containment measures under the form "Report on CD2″ and provide them to the CDC and Belcard OJSC upon request;

- to fulfill the established criteria for the CD2 mode removal;

- to extend approved corrective actions to all similar manufacturing processes (if applicable).

Criteria of exit from CD2:

- control data in the CD2 area show 0 defects but the results of sequential acceptance of at least 15 working days old after the introduction of CD2;

- measures to protect against errors are introduced in the process in relation to the specified defects;

- "Report on the analysis of the cause of non-compliance" and "Corrective action plan" are received and approved by Belcard OJSC;

- the 8D effectiveness is confirmed by control data and agreed with Belcard OJSC;

- when developing actions that exclude the influence of the causes of defects, the supplier should, if possible, implement technological protection against errors (technological equipment, technology automation or technological operation method that exclude the possibility of a defect), providing a 100 % guarantee of defect-free deliveries. The process control plan should provide periodic confirmation (validation) of the effectiveness of error protection;

- “Samples of defects” were made to train workers and improve the control effectiveness;

Belcard OJSC must respond to the supplier's request to exit the CD2 mode within 48 hours from the moment of receiving confirmation information from the supplier.

List of documents for exiting from CD2 mode:

- a letter of request to exit on the supplier's letterhead;
- FMEA, MP, RI, PFD updated protocols;
- an evidence of error prevention activities, including implementation, validation and periodic review;
- a report on the implemented corrective actions;
- data on control in the CD2 area;
- records of personnel training for the implemented changes;
- an evidence of audits at appropriate levels, confirming the corrective action effectiveness;
- statistical data on the assessment of the reproducibility of characteristics, if applicable;
- a report on the analysis of measuring and control processes.

The documentation should be sent to Belcard OJSC. All documentation should be placed in a binder or folder identified to facilitate the search for any document.

5.3 Controlled refits

Controlled third level refit (hereinafter referred to as CR3) is the requirement of Belcard OJSC to suppliers to introduce an additional process of refit/revision of nonconforming products according to the established characteristics. Belcard OJSC initiates the CR3 mode in cases of deviations in the C&M consignments for production needs.

In order to implement work on CR3 the supplier is obliged to conclude an agreement for the provision of services with an organization, which is an executor of the CR3 process, approved by Belcard OJSC. The work is carried out on the territory of Belcard OJSC.

If the supplier refuses to apply the CR3, Belcard OJSC has the right to:

- file a claim for reimbursement of costs for "production downtime" of Belcard OJSC;
- use the services of a "service provider" for conducting CR3 with reimbursement of costs for their implementation by reducing the amount of accounts payable of Belcard OJSC to the supplier.

CR3 includes:

- qualified refit/revision of nonconforming products according to the agreed technology;
- operational refit/revision of nonconforming products identified at all stages of the product life cycle;
- restraining measures carried out by the organization's personnel at its own expense;
- 100 % final inspection/revision of products by the representative of the contractor of the controlled refit according to the agreed technology.

The CR3 process is initiated in the following cases:

- if Belcard OJSC detects nonconforming products in consignments that have a position of deficit (threat of stopping production due to lack of C&M of the required quality), the decision to organize additional 100 % control or product revision is made by Belcard OJSC;
- if the supplier reveals deviations affecting the formation of defects in the consignments sent to Belcard OJSC the decision to organize an additional 100 % control or revision of products is taken by Belcard OJSC.

Controlled refit implementation rules:

1) Only CDC can perform CR3.

2) The CDC data on product reassembly/refinement prove the effectiveness of the organization's containment process for nonconforming products.

3) Defects identified in the containment area of CR3 in the calculation of the organization's quality indicators are not taken into account.

The organization shall:

send the “Answer” to the responsible person of Belcard OJSC by e-mail within two (2) hours;

if there is reliable evidence that the supplier is not involved in the defect indicated in the notification, the supplier shall provide a justification within the allotted time (two (2) hours) from the date of receipt of the notification, the time may be increased for import organizations by the agreement of the parties);

make a decision on the blocked consignment and send a notification to Belcard OJSC within two (2) hours;

in case of application of the CR3 mode, send a technical assignment for the refit to Belcard OJSC;

provide product datasheet and materials for the refit;

before the beginning of the refit in CR3 mode, conclude an agreement with the CDC from the list of approved organizations;

collect and analyze data on the refit/revision of C&M in the CR3 area;

before the beginning of the implementation of the CR3 mode, the CR3 contractor must agree on the suitability of the application of control methods and product refinement technologies with the supplier.

6 Contingency plan

The contingency plan is developed by the supplier in order to eliminate/reduce the negative consequences of a disruption in the supply of appropriate products in the required quantities in accordance with the delivery schedule.

The plan establishes actions in case of emergency situations for the continuity of supply in accordance with the risk and impact on the consumer in the following cases:

- failure of key equipment;
- failure due to equipment, processes and services of external origin;
- labor shortages or infrastructure disruptions;
- return of products from service;
- cyber attack to an IT system (an action aimed at disrupting the functioning of the information security of a computer system);
- interruption of the supply of utilities;
- fires;
- recurring natural disasters.

7 Warranty management system

The organization provides a quality warranty for the products. The warranty period is established from the moment of transfer of products to Belcard OJSC until the end of the warranty period of operation of the main product of Belcard OJSC, in the configuration of which these products were used. For latent defects claims for the quality of rolled metal are accepted within two (2) years from the date of shipment of products to Belcard OJSC.

Warranty cases are drawn up in the form of a complaint report. The supplier shall send a response within 5 working days (accepted/not accepted with justification for the refusal) upon the complaint report receipt). If the supplier has not reviewed the complaint report within the specified period, the complaint is considered accepted by the supplier by default and is subject to compensation.

In case of any questions regarding the clarification of information on reclamation reports, the supplier can contact Belcard OJSC.

Prepared by:

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Representative of KAMAZ PJSC I.A. Bulakh

Annex A
(compulsory)
Supplier Self-Assessment Questionnaire Form
Supplier Self-Assessment Questionnaire of Belcard OJSC, Grodno

General information on the organization		
1.	Full name of the organization	
2.	Year of incorporation of the organization	
3.	Organization status (manufacturer/reseller/authorized dealer)	
4.	Head of the organization, phone, fax, e-mail.	
	Quality Director, phone, fax, e-mail.	
	Production Director, phone, fax, e-mail.	
	Chief Designer, phone, fax, e-mail.	
	Chief Process Engineer, phone, fax, e-mail.	
5.	List of the main mass-produced products	
6.	Primary consumers (customers)	
7.	Branches and subsidiaries	
Major suppliers of metal, materials and components		
8.	Register of the main suppliers of metals, materials and components (attach a copy)	☐ yes ☐ no
9.	Major suppliers are assessed	☐ yes ☐ no
10.	Incoming control of received products	☐ yes ☐ no
	Main controlled parameters	
11.	Quality certificates from suppliers	☐ yes ☐ no
Quality management system		
12.	Quality assurance	☐ yes ☐ no
13.	Certified QMS **If yes:** attach a copy **If no:** attach a program for the creation and preparation for QMS certification	☐ yes ☐ no

	Planned certification period:	
14.	Presence of the incoming control of products in the production process under to approved technical processes and documented quality data	☐ yes ☐ no
15.	Presence of final control and testing of products under approved technical processes and documented quality data	☐ yes ☐ no
16.	Presence of certified laboratories	☐ yes ☐ no
	List of basic laboratory equipment	
Design and technological capabilities		
17.	Design and technological department	☐ yes ☐ no
18.	Ability to design new products	☐ yes ☐ no
19.	Ability to design and manufacture technological equipment	☐ yes ☐ no
Customer satisfaction		
20.	The quality requirements are included in the supply agreement in full	☐ yes ☐ no
21.	Application of the methodology for solving quality problems at the incoming control, car assembly production and during the warranty period according to the 8D form	☐ yes ☐ no
22.	Warranty maintenance	☐ yes ☐ no
23.	Post-warranty service of products	☐ yes ☐ no

Head of the Organization _____ _____ _____

L.S. (signature) (date) (name, patronymic name, surname)