

PFU Group Green Procurement Direction

February 3 , 2012 (Edition 5.0)

PFU LIMITED

In conformity with the Fujitsu Group Green Procurement Direction (Edition 5.2)

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1. Preface

The PFU Group adheres to the PFU action principle, "We make everything Green". Striving to conserve a clean environment for the next generation is one of the most important policies of management and environmental protection.

From this approach, we drafted the PFU Group Environmental Policy to promote environmental management in a way that reflects the distinct nature of our business.

Our specific goal was to clarify the "Environmental Protection Program", and through this we aim to implement "Green IT Evolution" which promotes environmentally friendly solutions and production to reduce the impact on the environment.

With regard to procurement, PFU Group has put its policies into shape as PFU Group Green Procurement Direction, and has asked suppliers to conform to its requirements.

PFU Group will continue promoting green procurement activities based on this Direction, and taking social responsibility for the global environmental protection. We are grateful if suppliers understand PFU Group's environmental activities and step forward with us to accomplish the same goals.

2. PFU Group's environmental policy

PFU's Environmental Commitment lays out the basic philosophies by which PFU Group aim to tackle environmental protection and global environmental issues.

Environmental Commitment

1. Action Policies

- (1) Organize for collective strength.**
- (2) Implement corporate responsibility.**
- (3) Contribute to society.**

2. Action Principles

- (1) Business activities should consider environmental impacts.**
- (2) Natural resources and energy should be used effectively.**
- (3) Technologies that help preserve the environment should be developed.**
- (4) Legal rules and out-of-company agreements should be complied with.**
- (5) Environmental strategies and cooperative activities that contribute to society should be pursued.**
- (6) Environmental awareness should be raised through education.**
- (7) Systems that promote environmental protection should be established.**
- (8) Shareholder and affiliated companies should collaborate.**
- (9) Information should be disclosed, and self evaluations fed back into the system.**

3. Introduction to the PFU Group Green Procurement Direction

3.1. Purpose

PFU Group performs environmental activities in all business areas based on the concept of "The green policy 21 - We make every activity green". As part of these activities, it promotes the procurement of lower-environmental-load products.

This Green Procurement Direction describes the philosophy on which PFU Group's green procurement activities are based and specifies what we want suppliers to fulfill.

PFU Group will promote global environment protection activities in cooperation with suppliers, based on this Green Procurement Direction.

3.2. Scope

This Green Procurement Direction has been established as a common direction of the entire PFU Group companies, and applies to procured products or goods that are applied to products sold by PFU Group to customers as well as to their suppliers themselves.

In this Direction, "procured products or goods" shall mean material, components, units, accessories, packaging materials, OEM/ODM products, equipment, software and services, etc., except for office automation equipment, stationery, or business consumables, etc., which are internally used in PFU Group.

The PFU Group Companies in this Direction shall mean subsidiaries or affiliates of PFU Limited, which are shown in the Attachment 1.

In this regards, however, if a member company of PFU Group presents its own direction because of its customers' specific requirements or a particular business style, suppliers are also requested to primarily observe such its own direction.

4. Green procurement requirements to be fulfilled by suppliers

PFU Group requires its suppliers to observe mainly the following five requirements, which the concepts are shown in Table 1.

PFU Group promotes procurement from suppliers who observe these requirements. In details about each requirement, please see Section 4.1 through 4.5.

Table 1 Green procurement requirements to be fulfilled by suppliers

	Requirements	Material/parts suppliers*	Other suppliers	Section
(1)	Establishment of EMS (Environmental Management System)	Required	Required	4.1
(2)	Compliance with regulations for PFU Group specified chemical substances	Required	N/A	4.2
(3)	Establishment of CMS (Chemical substances Management System)	Required	N/A	4.3
(4)	Approaches towards limiting or reducing CO2 emissions	Required	Required	4.4
(5)	Approaches towards biodiversity preservation	Required	Required	4.5

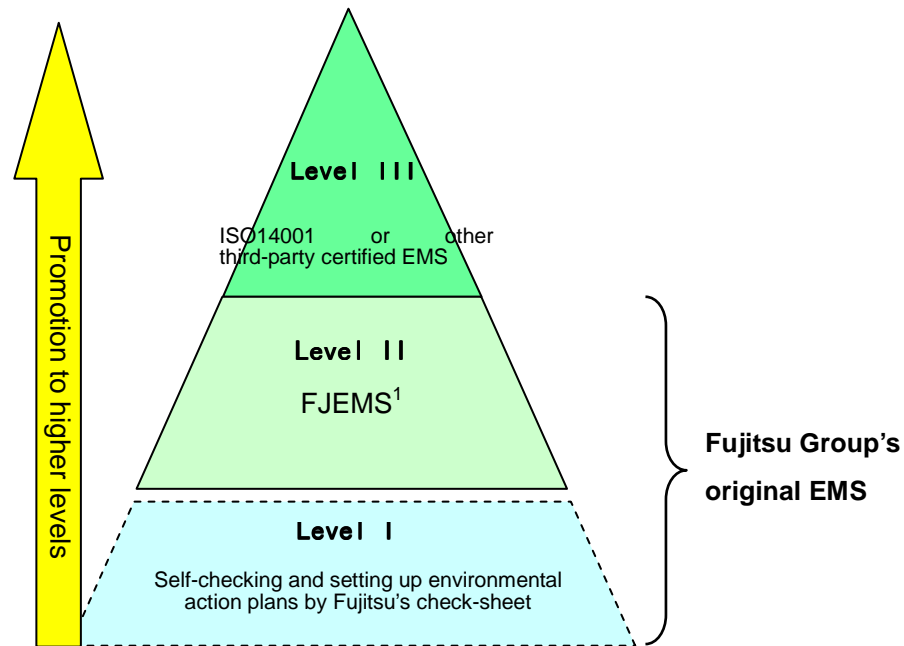
*Material/parts suppliers: suppliers whose deliverables are equipped to PFU Group's products or suppliers of OEM/ODM products

4.1. Establishment of EMS

PFU Group requires all suppliers to establish EMS. In principle, the suppliers are requested to establish EMS certified by a third-party organization, such as ISO14001. However, with considerations to small and medium-sized enterprise, PFU Group has provided its original EMS, which are designed in order for such companies to easily establish EMS with reasonable efforts. Depending on the circumstances of suppliers, the following three levels are in effect. Suppliers whose deliverables are equipped to PFU Group's products or OEM suppliers are required to establish level III EMS or at least level II.

EMS implementation status levels:

- Level III: Third-party certified EMS, such as ISO14001, or others (including Eco Action 21, Eco Stage or KES, etc., all of which are provided only in Japan)
- Level II: Fujitsu Group Environmental Management System (FJEMS)
- Level I: Self-checking environment protection activities and setting up own action plans for environmental activities, which the conformity is checked by self-check sheet by Fujitsu Group



- Level II or higher is required for suppliers whose deliverables are equipped to PFU Group's product or OEM suppliers.

Figure 1 EMS implementation levels required for suppliers

Figure 1 shows the levels of each EMS required for suppliers, and Table 2 shows respective requirements in each level. In Table 2, although the requirements corresponding to ISO14001 are presented as an example of Level III, it is not necessary to cover all the requirements if EMS is certified by a third party.

If suppliers believe it is difficult to establish a level III EMS in a short period, they should build and run level II: FJEMS as a step-up tool until they can establish level III. FJEMS is designed based on fundamental elements of ISO14001 and focused on letting suppliers be settled environment activities by rotation of PDCA cycle. Suppliers could receive a FJEMS certificate issued by PFU Group after submission of an application form containing necessary items and being admitted by PFU Group. If a supplier has built an EMS based on its own design, it is necessary that the EMS be checked conformity to the FJEMS requirements in Table 2. Therefore, such suppliers are requested to present related documents required for the conformity check when requested by PFU Group. If the supplier's own EMS fulfills the FJEMS requirements, it will be admitted as level II.

Moreover, for suppliers who are going to start environmental activities from now, PFU Group has prepared Level I EMS that is an aid tool containing self-checking suppliers' awareness toward environmental protection activities and setting activity action plans, which are fundamental elements of EMS establishment.

Figure 2 shows schematic flow of establishing Fujitsu Group original EMS, which are level II and I. Suppliers who have already established level II or I are requested to lift its level up to eventually level III as early as possible.

For suppliers who have built the Fujitsu Group original EMS, PFU Group may check its real activity situation by means of visiting supplier's business sites.

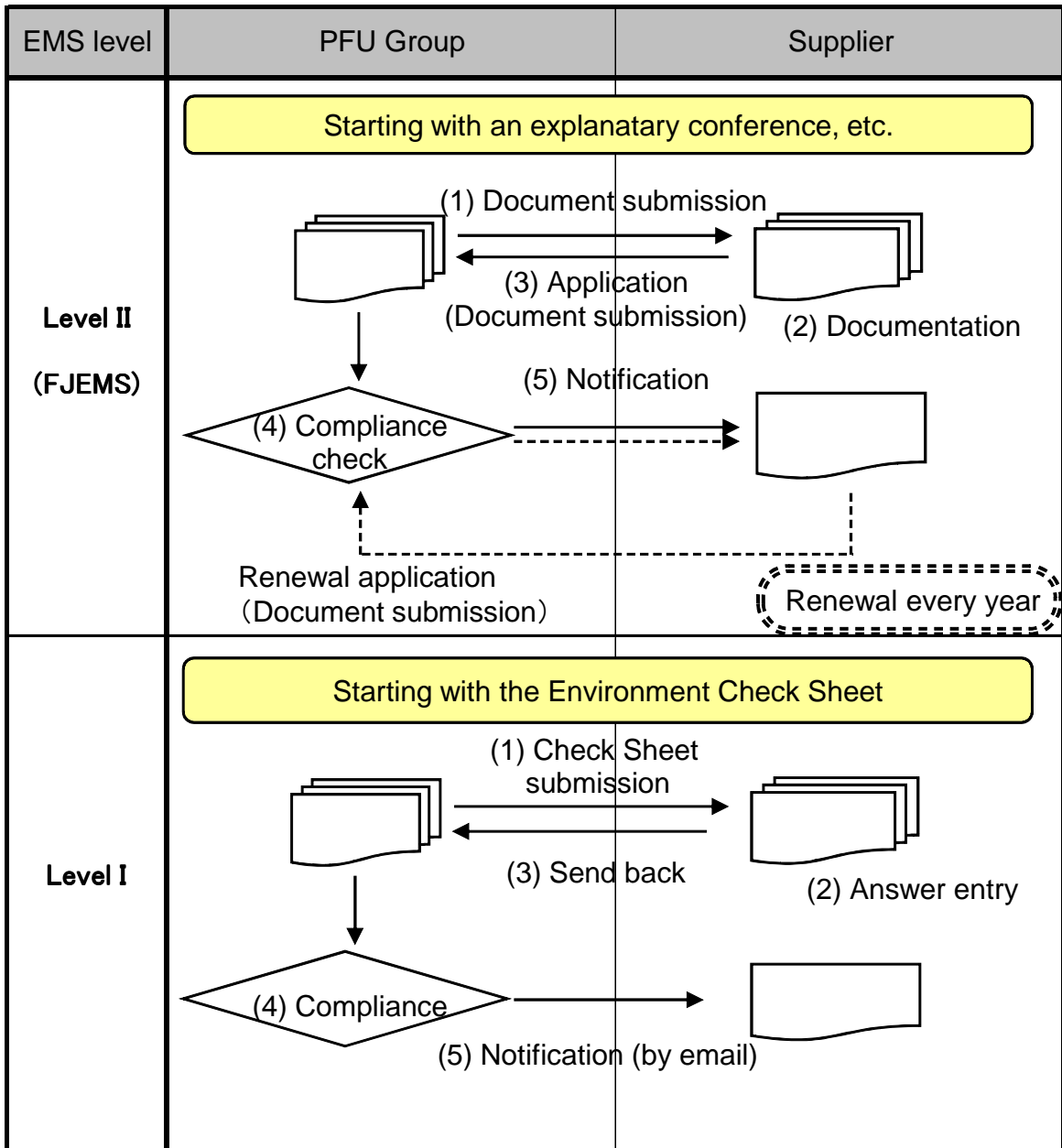


Figure 2 Schematic flow of establishment of Fujitsu Group original EMS

Table 2 Requirements at each EMS level

Requirements (*1)	Level III				Level II	Level I	Principal requirements
	ISO 14001	Eco Stage 1 (*2)	Eco Action 21	KES	FJEMS (*3)	Check Sheet (*3)	
General requirements (4.1)	O	O					The scope, environmental policies and targets shall be clarified and set. The scheme towards achievement shall be established.
Environmental policy (4.2)	O	O	O	O	O		The environmental policy shall be created by the Chief Environmental Officer
Environmental aspects (4.3.1)	O	#	O	O	O	O	Environment-related elements shall be extracted from one's business activities, and the environmental loads associated with the extracted elements shall be identified.
Legal and other requirements (4.3.2)	O	O	O	O	O		The legal and other requirements shall be specified and referable.
Objectives, targets and programs (4.3.3)	O	O	O	O	O	O	The objectives and targets of environmental activities shall be specified.
Resources, roles, responsibility and authority (4.4.1)	O	O	O	O	O	O	The Chief Environmental Officer, environmental managers, and an environmental organization responsible for environmental activities shall be assigned.
Competence, training and awareness (4.4.2)	O	O	O		O		The needs of environment education shall be specified and let applicable persons to have.
communications (4.4.3)	O	O	O				Information provided from inside and outside company, especially, complaints and requests from outside shall be surely responded.
EMS documentation (4.4.4)	O	#		O			The manual that defines PDCA cycle for environment activities shall be created.
Control of documents (4.4.5)	O	#					Documents related to environmental activities shall be clarified and properly controlled.
Operation control (4.4.6)	O						Business activities that may affect environment shall be properly controlled.
Emergency preparedness and response (4.4.7)	O	#	O	O			Accidents and emergencies that may remarkably affect environment shall be specified and envisioned. The preventive actions shall be taken with discipline.
Monitoring and measurement (4.5.1)	O	O	O	O	O		What has been achieved to date shall be periodically checked against the objectives and targets of environmental activities.
Evaluation of compliance (4.5.2)	O	O			O		The conformity check with specified legal and other requirements shall be regularly done.
Nonconformity, corrective and preventive action (4.5.3)	O	#					The definitions on nonconformity, and the corrective and preventive measures shall be prepared and operated.
Control of records (4.5.4)	O	#	O				Activities results shall be properly recorded and kept.
Internal audit (4.5.5)	O	#					Adequacy and properness of activities shall be checked by other internal division with detached viewpoints.
Management review (4.6)	O	O	O	O	O		Results of environmental activities shall be reviewed by the Chief Environmental Officer and fed back to activities that follow.

Note: The "O" mark indicates that each requirement in the left column is applicable to the each EMS.

*1: Requirements and the parenthetic numbers are quoted from ISO14001:2004.

*2: "#" means "recommended option" that one can set it freely depending on its business types.

*3: Fujitsu Group may revise the requirements of its original EMS as needed.

4.2. Compliance with regulations on PFU Group specified chemical substances

1) Our concepts for chemical substances to be controlled:

PFU Group has defined its own regulations on chemical substances related to Deliverables which are equipped to PFU Group's products, or OEM/ODM products and packaging materials (hereinafter collectively called "Deliverables" in this Green Procurement Direction), and requested its suppliers to comply with the regulations. With respect to the chemical substances, PFU Group has defined herein substances by referring to those related to international laws such as EU's RoHS Directive or REACH Regulation, those specified by JIG (*1), a common guideline of survey regarding chemical substances contained in the electric and electronic equipment created by the industry groups of Japan, USA, and Europe (JGPSSI, CEA, DIGITALEUROPE), and the Class I substances specified by Japanese Chemical Substances Control Law, etc. In detail, please refer to the following.

2) PFU Group specified Chemical substances:

Deliverables shall comply with the following regulations in the articles a). through e).

However, if there are particular designations or directions in a purchase specification, drawing or other similar kind of document that includes, for example, designation regarding other chemical substances, other "standards of ban", or other "exempted applications", such designations or directions will prevail.

"Packaging materials" herein also include the cases that they are packed by suppliers (or by a carrier that the suppliers entrust packaging) and supplied directly to customers of PFU Group without being unpacked by PFU Group. In addition, also refer to the section 5.5 (Environmental considerations for packaging materials), which includes a few requests regarding environmental assessment.

Note: - As for fundamental ideas regarding control of PFU Group specified chemical substances, also refer to "Guideline regarding non-containment management on Fujitsu Group specified chemical substances" (<http://www.fujitsu.com/global/about/procurement/green/>).

- The latest version of "Standard for the Control of Chemical Substances in Products (A1PA00500-0012)" is available at the following URL. [http:// www.pfu.fujitsu.com/eco/green.html](http://www.pfu.fujitsu.com/eco/green.html)

a) Banned Substances

- In principle, Deliverables must not contain chemical substances defined in Table 1 of "Standard for the Control of Chemical Substances in Products (A1PA00500-0012)".
- In details of the target substances, "Standards of Ban" and calculation methods of concentration, etc., refer to Table 1 of "the Standard for the Control of Chemical Substances in Products (A1PA00500-0012)" and its notation.
- Notwithstanding above, if exempted application(s) in Appendix 1d of "Standard for the Control of Chemical Substances in Products (A1PA00500-0012)" is(are) applicable to the Deliverables,

such containment will be exempted from the restriction of the ban.

- In this regard, however, as for Lead/Lead compounds, Mercury/Mercury compounds, Cadmium/Cadmium compounds and Hexavalent Chromium/Hexavalent Chromium compounds, Deliverables must not contain any of these substances only when PFU Group specifies that such Deliverables do not contain any of these substances by a purchase specification, drawing or other similar kind of document. This article is given because PFU Group occasionally has to use Deliverables that contain these substances in order to meet requirements from its customers.

b) Reportable Substances

- Reportable Substance(s) shall be taken hold on the presence or absence in Deliverables, and if Deliverables meet "Conditions of Deliverables to be reportable" defined in Table 2 of "Standard for the Control of Chemical Substances in Products (A1PA00500-0012)", its total mass, purpose of use, and application area, etc., shall be reported to PFU Group.
- In details of target substances, "Conditions of Deliverables to be reportable", contents to be reported or managed, and calculation methods of concentration, etc., refer to Table 2 of "Standard for the Control of Chemical Substances in Products (A1PA00500-0012)" and its notation.
- Substance may be added to Reportable Substances when the obligation of information transmission becomes necessary according to international regulations such as REACH Regulation. In such cases, PFU Group may ask suppliers to provide information before revising this Direction.

c) Control Substances

- In the case that Deliverables meet "Conditions of Deliverables to be controlled" defined in Table 3 of "Standard for the Control of Chemical Substances in Products (A1PA00500-0012)", with respect to "Control Substance", its total mass, purpose of use, and application area, etc., shall be managed and recorded.
- In details of target substances, "Conditions of Deliverables to be controlled" and calculation methods of concentration, etc., refer to Table 3 of "Standard for the Control of Chemical Substances in Products (A1PA00500-0012)" and its notation.

d) Prohibited Substances in manufacturing process

- During manufacture of Deliverables, it is prohibited to use PFU Group specified "Prohibited Substances" that are defined as "Ozone Depleting Substances" in Table 4 of "Standard for the Control of Chemical Substances in Products (A1PA00500-0012)", except for HCFCs. Meanwhile, if you use HCFCs, please work to reduce the emission and/or the use.
- In this regard, however, the use of Prohibited Substances is exempted from the restriction if they are used in indirect manufacturing process such as analytical determination and product development, or in a freezing/an air-conditioning machine.

e) Other restricted substances in delivery destination counties or areas

- Other than the substances defined in a) through d) above, Deliverables shall at all time comply with laws and restrictions applied in delivery destination countries or areas, for example, where Deliverables are delivered to overseas sites of PFU Group.

For your reference, please refer to the following principal laws and restrictions in Japan and overseas that are related to chemical substances in products. However, since it is hard to provide whole lists here, please confirm by yourselves.

Japan:

- Chemical Substances Control Law (CSCL)
- Industrial Safety and Health Law
- Law for Promotion of Effective Utilization of Resources (3R Law): Requirements for information disclosure of restricted chemical substances
- Law Concerning the Protection of the Ozone Layer through Control of Specified Substances and Others Measures (Ozone Layer Law)

Overseas:

- EU member nations: RoHS Directive: Directive 2002/95/EC of European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment
- EU member nations: Directive 76/769/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations
- Germany: ChemVerbotsV
- Swiss: ChemRRV
- Norway: Norwegian Product Regulations
- USA: TSCA (Toxic Substances Control Act)
- China: China RoHS: Administration on the Control of Pollution Caused by Electronic Information Products

*1: JIG: Joint Industry Guide

JIG is a common guideline regarding the disclosure of information related to chemical substances in products, created jointly by the JGPSSI, EIA (The Electronic Industries Alliance) and EICTA (the European Information & Communications Technology Industry Association) and officially issued in March 2010 with the approvals of the JGPSSI and EIA. In April 2009, JIG-101 Edition 3 was released by CEA (Consumer Electronics Association), DIGITALEUROPE (former EICTA) and JGPSSI.

JIG document can be downloaded from the following CEA website.

http://www.ce.org/Standards/browseByCommittee_6365.asp

*2: JGPSSI: Japan Green Procurement Survey Standardization Initiative

JGPSSI is a voluntarily established organization supported by Japanese electronic end-product manufacturers, parts suppliers as well as chemical materials associations for the purpose of standardizing green procurement surveys.

JGPSSI also dedicated its activities to develop and standardize a new management system specially focusing on chemical substances control at each company in its supply chain in order for the improvement of the reliability of the information of chemical substances transferred in the supply chain. Consequently, JGPSSI issued "Guidelines for the Management of Chemical Substances in Products". For more information about JGPSSI, refer to its website (<http://www.jgpssi.jp>).

4.3. Establishment of CMS

PFU Group has requested establishment of CMS of material/parts suppliers. As typified by RoHS directive and REACH regulation of European Union, so-called "China RoHS" and Japanese "J-Moss", it has been becoming necessary in every supply chain to severely control certain chemical substances in products. Responding to this, each company in such supply chains, as their social responsibilities, needs to implement proper and effective management of chemical substances in their products.

With regard to PFU Group's methodology about CMS, it adopts the "Guidelines for the Management of Chemical Substances in Products"(*1) issued by JGPSSI, of which the purpose is to standardize management methods, and has created "CMS Check Sheet" in accordance with the guidelines. The CMS Check Sheet is designed to clarify action items that PFU Group would like its suppliers to take, and by means of this PFU Group checks suppliers' situations of establishment and operation of CMS. Moreover, PFU Group has requested suppliers to take corrective actions for unadministered items.

The principal elements of CMS that PFU Group would like its suppliers to manage are shown in Table 3.

After suppliers' self-checking, furthermore, PFU Groups has requested to visit suppliers and to implement audits regarding CMS base on the submitted CMS Check Sheets. According to the audit result, PFU Group may request the suppliers to improve unsatisfactory performance in their CMS operation and also provide some advice if necessary. However, if no improvement comes out, PFU Group might reconsider business relationship to such suppliers.

In detail about CMS establishment and other related processes, PFU Group will explain respectively to applicable suppliers.

*1: JGPSSI "Guidelines for the Management of Chemical Substances in Products" were integrated with the guidelines of JAMP (Joint Article Management Promotion-consortium) in April 2008.

JAMP is a non-profitable organization founded in September 2006 to promote constructing scheme that information of chemical substances contained in products is easily disclosed and smoothly transferred in supply chain. JAMP has provided specific tools and guidelines for information disclosure and transfer so far.

For details of the guidelines, see the website of JGPSSI or JAMP (<http://www.jamp-info.com/>).

Table 3 Management items in CMS

No.	Management items	Outline of the required actions
1	Policy	Clarifying CMS policies by corporate or business representative
2	Definition of Management Criteria	Clarifying management procedures and criteria for requirements from laws, industry standards or customers
3	Definition of Scope of Management	Clarifying products, processes, constructional elements and chemical substances to be managed
4	Establishment of Objectives & Planning for Implemented Process	Setting objectives and reviewing implemented process
5	Definition of Organizational System, Responsibilities and Authority	Clarifying responsibilities and roles in each division related to the management
6	Design and Development	Taking into account compliance with the defined requirements at design and development stage.
7	Acquisition and Verification of Information of Chemical Substances in Products	Constructing information acquisition scheme, and acquiring information of chemical substance contained in delivered items.
8	Purchase Management	Conveying requirements to suppliers.
9	Acceptance Verification	Implementing conformity check of delivered items with one's defined criteria when receiving delivered items..
10	Process Management	Clarifying processes in which composition of chemical substances vary and controlling properly. Also implementing distinction control and prevention of contamination.
11	Shipping Verification	Implementing conformity check of shipping products with one's defined criteria or standards.
12	Traceability	Constructing traceability scheme of products and delivered items.
13	Change Control	Clarifying procedures in case that composition of chemical substances is likely to be influenced, such as changes of design, process, supplier, etc.,
14	Non-conformity Response	Clarifying procedures when unconformable products come out
15	Training	Clarifying education contents
16	Management of Documentation and Records	Implementing documentation of management procedures or instructions, and controlling appropriately.
17	Communication (Provision of Information)	Constructing information sharing system.
18	Performance (State of Implementation) Evaluation and Improvement	Evaluating CMS implementation status, and improving performance.
19	Management Review (Correction by Management)	Reviewing and correcting problems by top management

Management items and required actions are subject to change, if necessary.

4.4. Approaches towards limiting or reducing CO2 emissions

PFU Group requests all of our suppliers to make efforts towards limiting or reducing CO2 emissions.

The approaches are divided into three stages from the perspectives of making progress step-by-step. All suppliers are required to take approaches in Stage I at least. (See Figure 3 and Table 4 at the end of Section 4.5)

Material/parts suppliers are required to take approaches in Stage II and above.

[Stage I: Activity announcement]

It is a stage where companies understand the meaning of limiting or reducing CO2 emissions and express their will to make efforts as a corporation while figuring out the amount of CO2 emissions of their own. The process of figuring out the amount of CO2 emissions is included in Stage I since they need to be aware of the amount of their CO2 emissions before they start making efforts towards limiting or reducing their CO2 emissions.

[Stage II: Activity implementation (including Stage I)]

It is a stage where companies are conducting substantive activities internally.

Based on the amount of CO2 emissions figured out in Stage I, companies set their numerical goals for the activity in this stage by clarifying the items such as the activity period, target value, company-wide or location-specific activity target.

[Stage III: Activity expansion (including Stage II)]

It is a stage where companies are expanding their activities from the internal to the external level.

The extended scope of activities is carried out in Stage III. This stage includes not only the internal activities but also the process of encouraging the upper stream supply chain to make efforts towards limiting or reducing CO2 emissions and collaborative review tasks with external organizations. Measures to reduce carbon footprint (CFP) are also included in Stage III.

Encouraging the upper stream supply chain to take the approach will allow you to reinforce the activities of limiting or reducing CO2 emissions in the entire supply chain.

External organizations to collaborate include groups and related international organizations, such as industry, government, municipality, Japan Federation of Economic Organizations, NGO/NPO, etc. It mainly refers to participation in review working groups or review projects, but also includes donations to aid agencies.

Responses to CFP refer to activities of figuring out the amount of CO2 emissions by parts or displaying CFP mark on products, which are taken to reduce CFP. In both cases, it is based on the premise that products targeted for CFP have been determined.

4.5. Approaches towards biodiversity preservation

PFU Group requests all of our suppliers to make efforts towards preserving biodiversity.

As in the case of limiting or reducing CO2 emissions, the approaches are divided into three stages.

All suppliers are required to take approaches in Stage I at least. (See Figure 3 and Table 4)

[Stage I: Activity announcement]

It is a stage where companies understand the meaning of biodiversity preservation and express their will to make efforts as a corporation.

It is not sufficient if you just state that you would make efforts towards environmental conservation because incorporating views on biodiversity will change the quality and scope of environmental activities. In this regard, it is necessary to manifest that you would make efforts towards preserving biodiversity specifically.

[Stage II: Activity implementation (including Stage I)]

It is a stage where companies are conducting substantive activities internally.

To expand approaches as a corporation, a company-wide project team led by the management layer must have been organized and established.

On that basis, you will put company-wide approaches, location-specific and department-specific approaches for biodiversity preservation into practice.

[Stage III: Activity expansion (including Stage II)]

It is a stage where companies are expanding their activities from the internal to the external level.

The extended scope of activities is carried out in Stage III. This stage includes not only the internal activities but also the process of encouraging the upper stream supply chain to practice biodiversity preservation and collaborative review tasks with external organizations.

Encouraging the upper stream supply chain to make efforts towards preserving biodiversity allows you to reinforce the activities in the entire supply chain while it helps you to raise awareness of the need to practice biodiversity preservation in the entire society.

External organizations to collaborate include groups and related international organizations, such as industry, government, municipality, Japan Federation of Economic Organizations, NGO/NPO, etc. It mainly refers to participation in review working groups or review projects, but also includes donations to aid agencies.

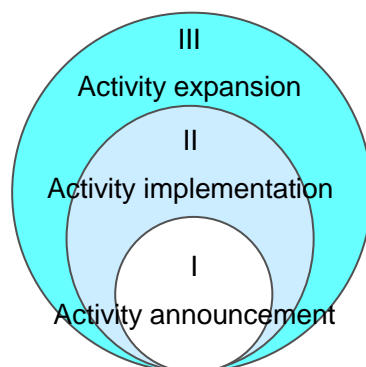


Figure 3 Stages of limiting or reducing CO2 emissions and biodiversity preservation

Table 4 Adaptation criteria in each stage concerning the activities of limiting or reducing CO2 emissions and biodiversity preservation

Stage	Approaches towards limiting or reducing CO2 emissions	Approaches towards biodiversity preservation
	Activity expansion (including Stage II)	
III	Perform one of the followings from 1) through 3): 1) Appeal to the upper stream supply chain 2) Work in collaboration with external organization(s) 3) Responses to carbon footprint	Perform one of the followings, 1) or 2): 1) Appeal to the upper stream supply chain 2) Work in collaboration with external organization(s)
	Activity implementation (including Stage I)	
II	Perform activities with numerical targets set	Perform 1) and 2) both shown below: 1) Establish a company-wide organization concerning biodiversity preservation 2) Make concrete efforts
	Activity announcement	
I	Perform 1) and 2) both shown below: 1) Make a public announcement to take approaches towards limiting or reducing CO2 emissions 2) Figure out the amount of CO2 emissions by your company	Make a public announcement to take approaches towards biodiversity preservation

5. Requests for implementation of environmental assessment of products

Suppliers are requested to comply with laws or regulations applied to Deliverables. Moreover, as far as you can, please do the following environmental assessments of Deliverables.

However, if there are particular designations or directions in a purchase specification, drawing or other similar kind of document, such designations or directions will prevail.

- ◆ Marking deliverables that use a small secondary battery (5.1)
- ◆ Energy saving (5.2)
- ◆ Consideration on recycling (5.3)
- ◆ Easy treatment and disposal (5.4)
- ◆ Environmental considerations for packaging materials (5.5)

5.1. Marking deliverables that use a small secondary battery

Deliverables that use a small secondary battery shall indicate a recycle or other legal mark in accordance with the Law for Promotion of Effective Utilization of Resources.

[Reference: Marking on products using small secondary batteries]

- The Law for Promotion of Effective Utilization of Resources enforced on April 1, 2001 specifies small secondary batteries as Designated Labeled Products and Designated Recyclable Products and obliges manufacturers of small secondary batteries to label their products with Recycle and/or other marks required.
- Types of small secondary battery specified by the Law for Promotion of Effective Utilization of

Resources

- ◆ Enclosed type nickel-cadmium rechargeable cells
- ◆ Enclosed type nickel-metal hydride rechargeable cells
- ◆ Lithium rechargeable cells
- ◆ Small-sized sealed lead-acid rechargeable cells

5.2. Energy saving

The operating and standby power consumption levels of deliverables shall be as low as possible and shall fulfill the following requirements:

1) Use of power saving function

A deliverable that can have a power saving function shall be able to automatically reduce the power consumption of components other than the main power supply and/or separate a part of the system by means of an operator operation or schedule function.

2) Compliance with the Law concerning the Rational Use of Energy

If a deliverable is specific equipment designated by the law, the following requirements shall be fulfilled.

- The energy consumption efficiency must be indicated based on the law.
- Consideration shall be paid to the target of energy consumption efficiency specified by the law and efforts shall be made to achieve the target.

[Reference: The Law concerning the Rational Use of Energy]

- The Law concerning the Rational Use of Energy (generally called the energy conservation law) requires the necessary actions/measures to be taken to comprehensively promote the rational use of energy on factories, buildings, machines, and instruments in order to ensure the effective use of fuel resources which will satisfy the need from the economic and social environment of energy at home and abroad.
- The law was revised on June 5, 1998 in the belief that the promotion of more rational use of energy was required. This revision was characterized by the introduction of the Top-Runner Approach that should be used on automobile fuel consumption standards and electric equipment (domestic appliances and OA equipment) energy saving standards. This approach is such that products including energy consumption efficiency improvement functions are compared and the energy saving standards should be based on the products that exhibited the best energy saving performance. In addition, the provisions for guaranteeing the effect of law enforcement were strengthened (offenders are not only given recommendations as specified in the previous version of the law, but also are identified or asked to obey orders or punished (pay penalty) if they do not observe the recommendations given to them).

3) Compliance with the International Energy Star Program

When a deliverable is subject to the International Energy Star Program, the power consumption

standard specified by the program shall be fulfilled.

[Reference: International Energy Star Program]

- This is an energy saving standard that has been in force since it was implemented in October 1995 under consensus between Japan and the US. The indication of the International Energy Star logo is permitted on products that fulfill certain energy saving standards.
- Applicable products: Computers, displays, printers, facsimiles, copying machines, and scanners.
- For information on the International Energy Star Program, the standards that must be fulfilled by products permitted to indicate the log, and the registration procedure, visit the Web page of the Energy Conservation Center, Japan. (URL: http://www.eccj.or.jp/index_e.html)

5.3. Consideration on recycling

Considering ease of recycling, deliverables shall fulfill the following requirements:

1) Unification of plastic materials

The plastic materials used for deliverables shall be unified as far as possible.

2) Use of plastic materials that can be easily recycled

The use of thermosetting plastics, which are difficult to recycle, shall be avoided and general-purpose plastics, which are easy to recycle, shall be used, as far as possible.

[Reference: Recommended general-purpose plastics]

- Polyethylene (PE)
- Polystyrene (PS)
- Polypropylene (PP)
- Acrylonitrile butadiene styrene (ABS)

3) Suppression of use of polyvinyl chloride

Use of polyvinyl chloride on deliverables shall be suppressed as much as possible, except for cable coverings and electronic component insulators (such as heat-shrink sheets), in order to prevent dioxin production when the material is improperly disposed of.

4) Painting on plastics

Painting and plating on plastic material surfaces of deliverables shall be avoided as far as possible because they make it difficult to recycle the material.

5) Material identification marking

Delivered plastic components with a mass of 25 grams or more and a flat surface area of 200 mm² or more shall be marked for material identification based on the pertinent JIS or ISO standard.

[Reference: Related standard on plastic material identification and marking]

- JISK6999 (ISO11469): Plastics -- Generic identification and marking of plastics products
- JISK6899-1 (ISO1043-1): Plastics -- Symbols and abbreviated terms -- Part 1: Basic polymers and their special characteristics
- JISK6899-2 (ISO1043-2): Plastics -- Symbols and abbreviated terms -- Part 2: Fillers and reinforcing materials
- JISK6899-3 (ISO1043-3): Plastics -- Symbols and abbreviated terms -- Part 3: Plasticizer
- JISK6899-4 (ISO1043-4): Plastics -- Symbols and abbreviated terms -- Part 4: Flame retardant

6) Materials of documents attached to deliverables

Manuals and documents attached to deliverables shall fulfill the following requirements:

- Recycled paper shall be used for all document pages.
Or, eco-friendly virgin pulp, such as FSC certified papers, is used.
- Covers of documents shall be free from plastic coatings, which can be an obstacle for recycling.

5.4. Easy treatment and disposal

Considering easy treatment and disposal after their use, deliverables shall fulfill the following requirements:

- Consideration for ease of separation and disassembly and reduction of composite parts
It is necessary that deliverables can be divided and disassembled into identical material units with hands and general tools (such as Phillips screwdrivers, nutdrivers, wrenches, hexagon wrenches, tweezers, nippers, pliers and/or hammers), except when use of special screws is mandatory to prevent modifications or when disassembly should be made difficult to prevent fires or ensure safety human body safety or for other reasons.

[Reference: Exceptional examples]

- Products that are required by laws or ordinances to use special screws in order to prevent modifications
 - Cellular phones, wireless units, and so forth
- Products that are required to ensure difficult disassembly in order to prevent fires, maintain human body safety, or serve other purposes
 - Power supplies, batteries, cells, and so forth
- Products (components) that cannot be replaced with anything that provides the same function or for which no appropriate substitute material is available
 - Oil felt (synthetic fiber), timing belt (rubber + synthetic fiber)
 - Power and signal cables (including flexible cables)
 - Pulley + gear (brass + aluminum + iron), metal rollers (brass + aluminum + iron), rubber rollers (rubber + iron), damper rolls (rubber + brass), solenoid-driven plates (copper + iron), vibration isolators (rubber + iron)
- Others (composite components that will not affect post-use treatment or disposal and other items that need to be used for structural reasons) and silk screened plastic components

- Metal components to which adhesives from adhesive tapes are stuck
- Steel plate with plastic coating
- Printed wiring board assemblies

5.5. Environmental considerations for packaging materials

Suppliers are requested as much as possible to use packaging materials of deliverables that fulfill the following requirements:

(A) This article A shall apply to packaging materials that are packaged by suppliers (or by a carrier that the suppliers entrust packaging) and supplied directly to customers of PFU Group without being unpacked by PFU Group, for example, software media and accessories sold with unit products and directly supplied to our customers. Therefore, this article A is not applied to packaging materials that will be unpacked by PFU Group after delivery to PFU Group.

1) Materials of Packaging materials

Packaging materials shall fulfill the following requirements:

- Any corrugated board for packaging shall contain used paper as its content at 70% or more.
- Paper materials used for packaging shall be free of plastic coating or bonding of art paper or other materials used for decoration or printing quality improvement because such coating or bonding can be an obstacle for recycling.
- Packaging materials shall suppress containment of polyvinyl chloride as little as possible to prevent dioxin production that would be caused by incorrect treatment, except when appropriate alternate materials are unavailable.
- Protective bags shall be made of paper or polyethylene, polypropylene or other plastic materials that can be easily recycled, except for vacuum aluminum bags, electrostatic breakdown prevention bags, electrostatic shielding bags or other special-purpose bags.
- Protective bags made of paper shall be free from plastic coatings or clear plastic sheets attached at openings.

2) Marking on packaging materials

Packaging materials shall fulfill the following requirements and be marked for material identification.

- Packaging materials used for containers or packages designated by the Containers and Packaging Recycling Law shall be marked for material identification required by the Law for Promotion of Effective Utilization of Resources.

[Reference: Identification marking required by the Law for Promotion of Effective Utilization of Resources]

- The Law for Promotion of Effective Utilization of Resources, which became effective on April 1, 2001, requires that containers/packages (packaging materials for products that will be

consumed in households) designated by the Containers and Packaging Recycling Law be marked with identification as "Other paper container/package" or "Other plastic container/package".

(B) This article B shall apply to packaging materials that are unpacked by PFU Group, which will be discarded or sold after delivery to PFU Group.

1) General requirements

- Suppliers are requested as much as possible to reduce Lead/Lead compounds, Mercury/Mercury compounds, Cadmium/Cadmium compounds Hexavalent Chromium/Hexavalent Chromium compounds and other hazardous heavy metals from the packaging materials.
- Suppliers are requested as much as possible to recycle and reuse materials to reduce packaging materials.
- Suppliers are requested as much as possible not to use PVC (Polyvinylchloride), which may cause dioxin emission, except there is no alternative.
- Suppliers are requested as much as possible not to use materials difficult to recycle for packaging materials such as urethane sponge.

2) Loading pallet

- To promote reuse, suppliers are requested as much as possible to use a loading pallet having a structure available to use repeatedly.
- Suppliers are requested as much as possible to use a loading pallet made of materials that can be recycled.
- Suppliers are requested as much as possible to reduce number of windings of stretching film preventing from collapse of cargo.
- Suppliers are requested as much as possible not to use PP-band for cargos and packing boxes.

3) Packing boxes

- Suppliers are requested as much as possible to make easy-to-read display of parts number and number of items on packing boxes.
- Suppliers are requested as much as possible to use corrugated board for packing boxes that contains higher content ratio of used paper to the extent without quality loss.
- Suppliers are requested as much as possible to let packing boxes not to be mixed or attached by materials that interfere in recycle.

4) Inner packaging materials: buffering materials, trays, tapes, partition board

- Suppliers are requested as much as possible to make simple packaging and to reduce packaging materials.
- Suppliers are requested as much as possible not to bond different types of materials that

interfere in recycle.

- Suppliers are requested as much as possible to reduce adhesive tapes.
- Suppliers are requested as much as possible to use common plastic materials such as PP, PE or PS for plastic packaging materials unless it's used for special purpose.
- Suppliers are requested as much as possible to display material of plastic packaging materials based on JIS or ISO standards.

5) Methods of filling

- Suppliers are requested as much as possible to fill in a box by every unit specified by a delivery destination site in case the site specifies number of items in a box.
- Suppliers are requested as much as possible to place an item in the packing box with becoming as much bulk ratio as possible.

6. Information disclosure

6.1. Disclosure of information on deliverables

Suppliers are requested to disclose the following information immediately when requested by a PFU Group company.

- Information of material used in deliverables, such as types of constituent materials and mass and/or concentration of each chemical substance

Note: Suppliers are required to provide such information by several formats, such as JGPSSI format, JAMP information transmission tool (AIS, MSDSplus), PFU Group original format, or a format specified by PFU Group's customer.

- OEM product assessment results if the PFU Group company has requested this information in accordance with the PFU-specified regulations on environmental assessment of products.
- Risks in terms of quality, performance and environment involved in changing production conditions of time-proven materials used in deliverables (4M change)
- Analysis data of deliverables

Note: As for fundamental ideas regarding analysis of PFU Group specified chemical substances, please also refer to "Guideline regarding analysis on Fujitsu Group specified chemical substances" (<http://www.fujitsu.com/global/about/procurement/green/>).

6.2. Submission of a non-use certificate and non-containment certificate

Suppliers are requested to submit a certificate proving that deliverables or packaging materials don't use or contain hazardous chemical substances if such submission is requested by a PFU Group company.

Attachment 1 List of PFU Group Companies

No	Company name
01	PFU LIMITED
02	PFU Hokkaido Limited
03	PFU East Japan Limited
04	PFU TOHTO Limited
05	PFU West Japan Limited
06	PFU Quality Service Limited
07	PFU Applications Limited
08	PFU Technoconsul Limited
09	PFU Techno Wise Limited
10	PFU Software Limited
11	PFU Life Agency Limited
12	PFU Human Design Limited
13	PFU Creative Services Limited

PFU Group members may vary in the future.

[Revision record]

October, 2004 (Edition 2.1):

The FUJITSU group green procurement direction (Edition 2.1) conformity

November, 2004 (Edition 3.0):

The FUJITSU group green procurement direction (Edition 3.0) conformity
(Revisions to maximum concentration values for impurities and residues, and others)

July, 2007 (Edition 4.0):

The FUJITSU group green procurement direction (Edition 4.0) conformity
(Changed specified chemical substances, and others)

July, 2008 (Edition 4.1):

The FUJITSU group green procurement direction (Edition 4.1) conformity
Added PFOS to specified chemical substances.
Deleted DecaBDE as the exempted application for PBDE.

October, 2009 (Edition 4.2):

The FUJITSU group green procurement direction (Edition 4.2) conformity
Revised specified chemical substances
e.g. added a new category, "Reportable Substances"
Deleted three exempted applications, etc.

January, 2010 (Edition 4.3):

The FUJITSU group green procurement direction (Edition 4.3) conformity
e.g. added 14 substances to Reportable Substances.

May, 2010 (Edition 4.4):

Omitted Attachment 2. Instead added the title of the Standard as a reference for specified substances.

February 3, 2012 (Edition 5.0):

In conformity with the Fujitsu Group Green Procurement Direction (Edition 5.2).
e.g. revised in part (Clause4.2, etc.)
Added approaches of limiting or reducing CO2 emissions and biodiversity preservation.
Changed PFU Group companies.