

# Model Quality Control Matrix Tools for Defining Commissioning Process

## Demonstration of MQC Matrix Tools software

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# *Contents*

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An outline of MQC Tool Software  
Demonstration follows

# *MQC tool software*

ESL-IC-04-10-27

MQC tool has the functions to define the commissioning process for any Standard Model Commissioning and to be used for customization to specific project as the database including all the information during commissioning process by overriding, deleting and/or adding.

It is used to define most of the necessary procedures required for commissioning authority as well as commissioning-related parties during the building production stage and operation stage.

# *MQC tool software\_ continued*

MQC tool is a control tool for commissioning work using to overview, document and store products of any commissioning projects and to define SMCxP, making it easy to check the required information.

# *MQC tool software\_ continued*

The tool was developed with MS-Excel using macro program, one of the most popular software.

- ❖ It must work on the International version of Windows 2000 and Xp.
- ❖ MS-Excel version is 2000 and 2002.

# Structure of MQC Matrix

ESI-JC-04-10-27

## Cx Process' sheet

Microsoft Excel - NNx for Final MQC\_NRTTypeIV-V\_E\_jp\_ver109.xls

ファイル(F) 編集(E) 表示(V) 挿入(I) 書式(O) ツール(T) データ(D) ウィンドウ(W) ヘルプ(H) Adobe PDF(B)

A1 = Commissioning Matrix

Commissioning Matrix		Production Stage					Operation & Maintenance Stage						
Instructions		Master Mode		Program Phase (Pre-Design Phase)		Design Phase		Elaboration Phase		Construction Phase		Operation Phase (Occupancy and Operations Phase)	
TYPE IV - V Non-Residential Building		Program Step	Planning Step	Preliminary Design Step	Working Design Step	Elaboration Step	Construction Step	Acceptance Step	Post-Acceptance Step	Post-Post-Acceptance Step			
Aspect	Definition	Phase Keyword	Stage/Phase&Step										
		Phase Definition											
		Step Definition											
		CA's Role											
		Actions											
		Organization											
		Requirements	Standards/Regulations										
			Performance/Criteria										
			Documentation Tools										
		Commissioning Tools	Technical Tools										
		Communication Tools											
	Purchase/Finance	Purchase (outsourcing, hiring)											
		Funding											
	Outcome/Documentation												
	Others												

Aspects

# Subject' sheet (a part) *Structure of MQC Matrix continued*

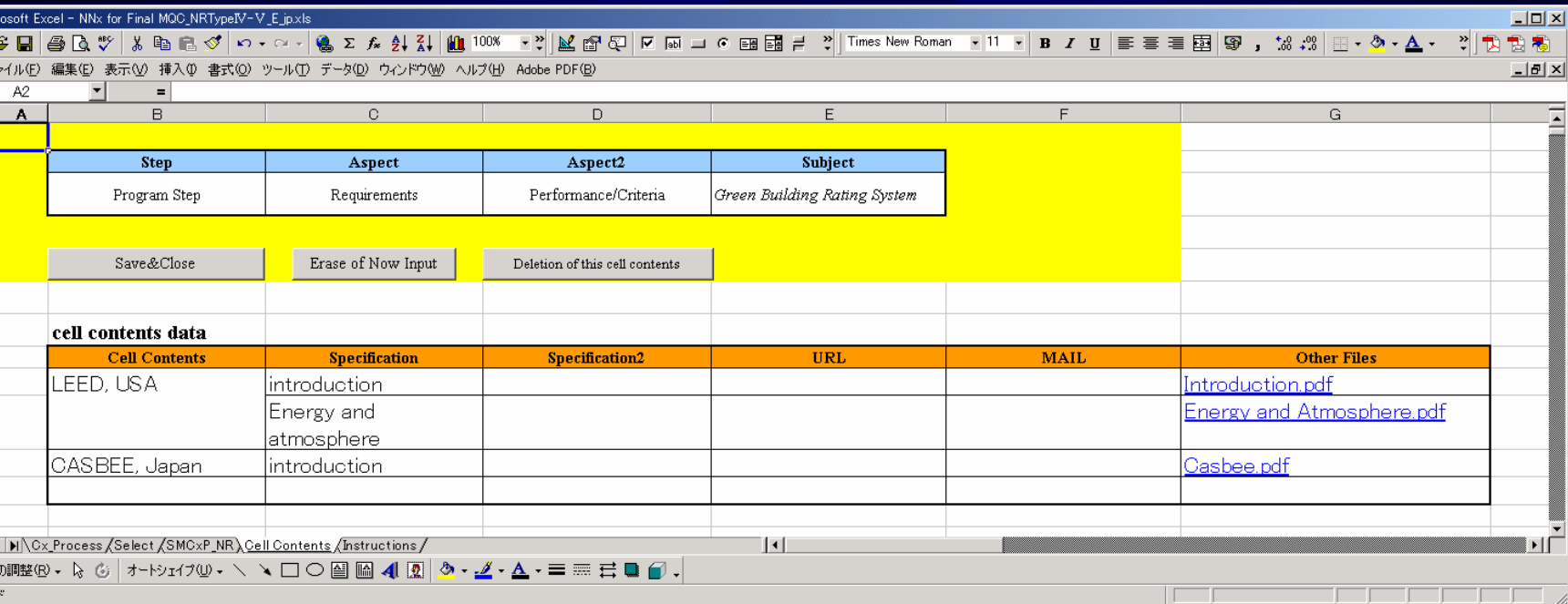
'Subject' sheet is a summary sheet of the objective process. If it is a Standard Cx. Process, it shall be called as SMCP/Type IV.

Commissioning Matrix		Program Phase (Pre-Design Phase)			
Roman letters: CA 's role, action and Cx related events Italic letters: Principal players ' role, action and Cx related events among Cx Related Parties during the step		Program Phase (Pre-Design Phase)		Design Phase	
Standard Model Commissioning Plan		Program Phase (Pre-Design Phase)		Design Phase	
Detailed Preview	TYPE IV - V Non-Residential Building	Program Step	Planning Step	Preliminary Design Step	
Requirements	Standards/ Regulations	Urban Planning & Developing Code	Urban Planning & Developing Code	Building Code and Regulation	Build
		<i>Environmental Assessment Code</i>	<i>Environmental Assessment Code</i>	Fire Code and Regulation	Fire
		Building Code	Building Code	<i>Public Building Regulation (Green Building)</i>	Publ
		ISO14000/9000	ISO14000/9000	<i>Energy Conservation Regulations</i>	Ener
		<i>Public Building Regulations (Green Building)</i>	<i>Public Building Regulations (Green Building)</i>	JIS (Japanese Industrial Standard)	JIS
		Labor Act	Labor Act	ISO	ISO
		<i>Energy Conservation Regulations</i>	<i>Energy Conservation Regulations</i>	JASS/HASS (Academic Standards for Architecture Licenses and Intellectual Property)	JASS
	Performance/ Criteria	Indoor Environmental Criteria (IAQ, VOC)	Indoor Environmental Criteria (IAQ, VOC)	Indoor Environmental Criteria (IAQ, VOC)	Indo
		Economical Performance (First/C, Operating/C, Life Cycle C)	Economical Performance (First/C, Operating/C, Life Cycle C)	Economical Performance (First/C, Operating/C, Life Cycle C)	Econ
		<i>Environmental Load (CO2, Waste, Energy)</i>	<i>Environmental Load (CO2, Waste, Energy)</i>	<i>Environmental Load (CO2, Waste, Energy)</i>	Envir
		Desired Function (Safety, Convenience, Maintainability, Flexibility)	Desired Function (Safety, Convenience, Maintainability, Flexibility)	Desired Function (Safety, Convenience, Maintainability, Flexibility)	Desir
		<i>Barrier-free</i>	<i>Barrier-free</i>	<i>Barrier-free</i>	Barri
		<i>Financial Plan (LCC/Repairs&amp;Maintenance)</i>	<i>Manufacturers List</i>	<i>Financial Plan (LCC/Repairs&amp;Maintenance)</i>	Finan
		<i>Credit Standard</i>	<i>Credit Standard for Contractors</i>	<i>Green Building Rating System</i>	Green

Proceedings of the Fourth International Conference for Enhanced Building Operations, Paris, France, October 18-19, 2004

# Cell Contents' sheet Structure of MQC Matrix continued

'Cell contents' sheet includes detailed information that has the function to link to computerized documents, URLs or e-mail addresses.



高層オフィスビルの水蓄熱システム	大規模事務所・店舗施設で将来のエネルギー情勢を考慮した複合熱源の蓄熱空調システムを採用したモデル設計例。	財)ヒートポンプ・蓄熱センター	<a href="http://www.hptcj.or.jp/chikun/etu/tools/index.html">http://www.hptcj.or.jp/chikun/etu/tools/index.html</a>		
大規模店舗ビルの水蓄熱システム	商業施設においてエネルギーの安定性、エネルギーコストの観点から複合熱源を採用したモデル設計例。	財)ヒートポンプ・蓄熱センター	<a href="http://www.hptcj.or.jp/chikun/etu/tools/index.html">http://www.hptcj.or.jp/chikun/etu/tools/index.html</a>		
事務所ビル (新設) の氷蓄熱システム Proceedings of the 2nd International Conference for Enhanced Building Operations, Paris, France, October 18-19, 2004	新築事務所建物の氷蓄熱システムのモデル設計例	財)ヒートポンプ・蓄熱センター	<a href="http://www.hptcj.or.jp/chikun/etu/tools/index.html">http://www.hptcj.or.jp/chikun/etu/tools/index.html</a>		
事務所ビル (リニューアル) の氷蓄熱システム	事務所ビルで空調設備を非蓄熱方式から蓄熱方式へ転換したリ	財)ヒートポンプ・蓄熱センター	<a href="http://www.hptcj.or.jp/chikun/etu/tools/index.html">http://www.hptcj.or.jp/chikun/etu/tools/index.html</a>		



# *Operation of MQC*

Two functions of MQC tool.

- One is the organized database management of commissioning process to accomplish commissioning project. Using this function, users can describe the information on the blank MQC and define the commissioning process.
- The other is browsing the selected information from the commissioning process database. User can browse the necessary information for commissioning

# *Demonstration follows.*

- Browsing Information on MQC
- Customizing MQC

Thank you for your kind attention!

*Fin*