THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA

NATIONAL INSTITUTE OF BUILDING SCIENCES

agcXML

REQUEST FOR INFORMATION
USE CASE

VERSION 1.0
MARCH 4, 2009

The agcXML Project

The Associated General Contractors of America

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March 2009

agcXML Example Use Case: RFI

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May 17, 2007
Revised June 21, 2007

1.   Name

Request for Information (RFI)

2.   About This Use Case

This use case is intended to describe a business process: a simple transaction between two parties that is commonly known as a Request for Information. The purpose of the use case is to provide a framework for defining the project-related information that is commonly exchanged in a simple RFI transaction. The complete business process for a typical RFI often includes many information exchanges or transactions between multiple parties. Some of these exchanges or transactions may occur simultaneously. This use case is not intended to be exhaustive or encompass all possible use cases.

On the other hand, the elemental nature of this use case is not designed to ignore or exclude complex or secondary transactions related to RFIs. Rather, it is intended to define the "core" RFI transaction and help define the essential project-specific information that must be exchanged in order for the transaction to be considered effective.

3.   Desired Outcomes

The standardization of RFI data exchange using agcXML is intended to produce both tangible and intangible benefits for the building design and construction industry. The potential benefits include:

- A standardized data format that will permit reliable electronic transfer of RFIs among project team members regardless of the project management software platforms used by individual project team members.

- More specifically, elimination of the need for a sending party to reduce structured data generated by a project management system to an unstructured data format (such as an e-mail message, a text document, or an image document), and for a receiving party to then translate the unstructured data back into a structured format in another project management system, all due to incompatible and proprietary data formats.

- Reduction or elimination of the need for owners to mandate use of particular project management systems, and for AEC firms to maintain multiple project management systems for multiple clients.

- Shortened RFI processing cycle time.

- Lower operating costs and fewer errors associated with redundant data entry.

- Improved project team collaboration and more efficient project execution.

- Enhanced cost/benefit ratio and increased viability of direct electronic data transfer methods over manual (paper/mail/fax) or document-based data transfer methods, thereby promoting adoption of e-commerce by more players in the building industry.

4. Summary Classifications

4.1. Type of transaction

An RFI is typically a request from a prime contractor to the owner's prime design consultant (typically, but not always, an architect) for additional or clarifying design information. RFIs are typically regarded as formal project communications and a part of the project record, and typically have contractual implications related to the timeliness of a satisfactory response.

4.2. Stage of project

RFIs typically occur during the construction stage.

4.3. Discipline

All disciplines, including clients/owners.

4.4. Partners and roles

The primary transaction is typically between a general contractor and an owner's prime design consultant. Associated transactions may involve subcontractors, discipline-specific design consultants, clients/owners, and owners' construction managers or program managers.

4.5. Data content

Typically clarification of, revisions to, or additions to, the design information.

5. Purpose

5.1. Description of the business processes (context)

The contractor has entered into a contract to construct the facility based on the design information provided by the designers. During the construction processes, situations arise where the contractor requires additional information from the client or their agents in order to proceed. Typically, clarification or interpretation of the existing design information is required, changes are found to be necessary to the existing information, or additional information is found to be needed.

5.2. Purpose of the transaction

The purpose of the RFI transaction is to provide a mechanism for the contractor to obtain the required additional information. This communication is treated formally so that the process can be managed (e.g., timeliness of the response can be controlled), and to ensure that the additional information is available to all who may require it.

The response constitutes part of the project record (e.g., additions to the project design information). The request from the contractor may include an opinion on required additions to the existing scope of work and may include an offer and quote for performing any such additional work. The response from the consultant may indicate a willingness to accept additional work. However, the RFI itself generally does not constitute a change in the scope of work of the contract, and any resulting changes should be followed by a change order.

6. Actors and Roles

Stakeholder: Any party in a contractor's supply chain with a formal role in a project may initiate an RFI process by identifying a problem or opportunity that requires additional information. For example, a subcontractor foreman may discover that a specific design detail cannot be constructed as designed and requires a design modification, and may request information on how to proceed.

Any project stakeholder may also be involved in providing the response and become involved in the RFI process through the transactions described in the generic document distribution Use Case.

Requestor/General or Prime Contractor: Any stakeholder that initiates an RFI process typically communicates with the general or prime contractor to prepare and submit the RFI. The Requestor will receive the response and distribute the information to the construction parties as necessary.

Responder/Owner's Prime Design Consultant: The RFI is typically submitted to the owner's prime design consultant (typically, the architect). The prime design consultant is responsible for providing or obtaining a timely response, obtaining any required approvals, and distributing the information to the owner and discipline-specific design consultants as necessary.

The assigned roles of RFI requestor and responder are a matter of common practice, but may vary from project to project by contractual agreement. A construction manager, for example, may be designated as the responder.

7. Preconditions and Start point

All parties are already formally involved in the project.

The use case starts when some stakeholder (typically someone in the contractor supply chain) identifies an issue (problem or opportunity) that requires additional information from the owner or the design team in order to proceed.

8.   End point

The transaction ends when the requestor (general contractor) has received a satisfactory response from the responder (prime design consultant) and distributed the information to other stakeholders as required so that the information can be acted upon.

9.   Measurable Result

The response should provide clarifying or additional design information that is sufficient to allow the general contractor and others to act upon that information.
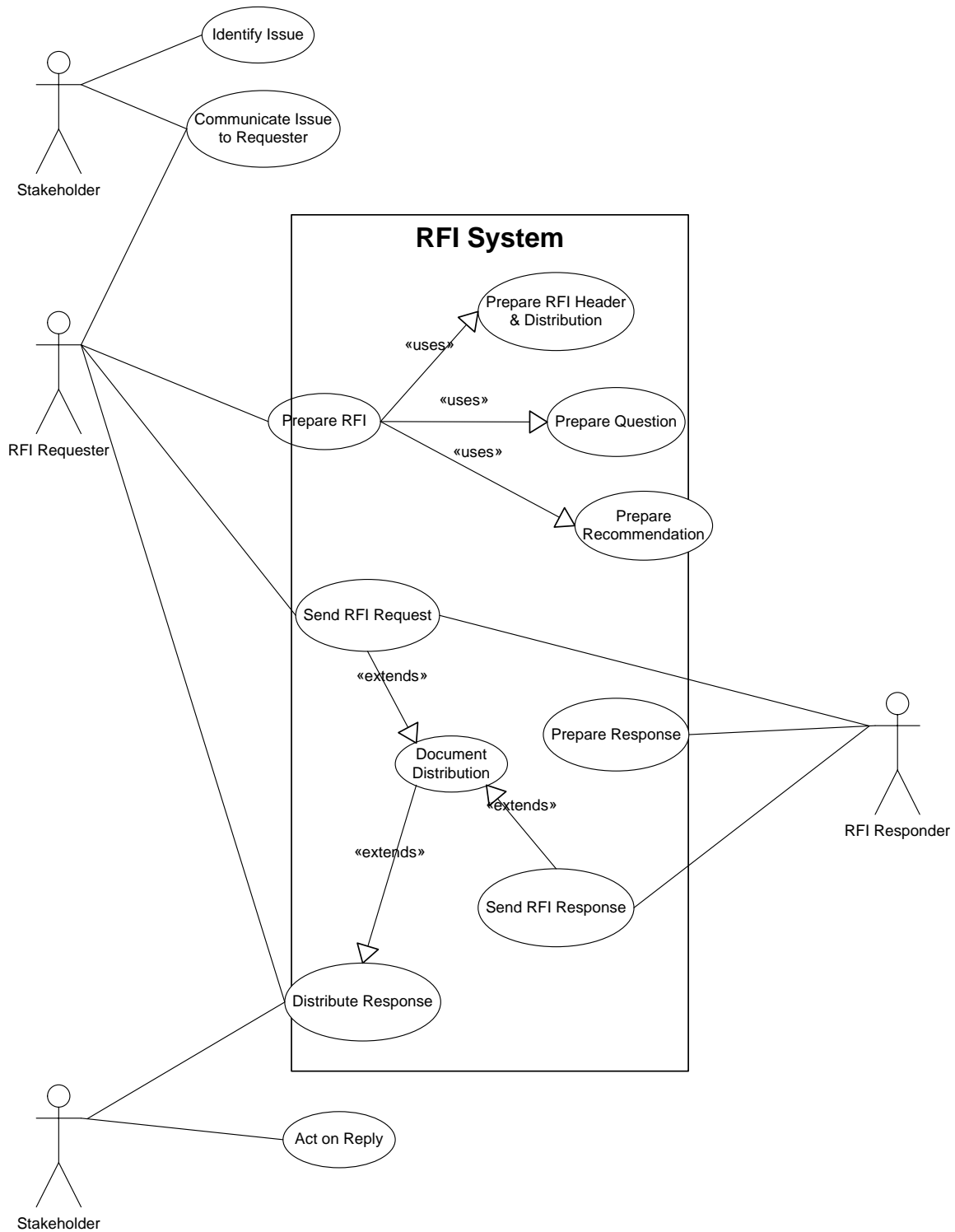
10.   Flow of Events/Activity Descriptions

1.   A project stakeholder (typically someone in the contractor supply chain) identifies an issue (problem or opportunity) that requires additional information from the owner or design consultants in order to proceed, and communicates this information to the requestor/general contractor.

2.   The initiating stakeholder communicates the issue to the party (typically the general contractor) that has formal authority to issue RFIs to the owner's prime design consultant. While this communication from the initiating stakeholder would typically be outside of the scope of the primary RFI transaction, the formal RFI system could be extended to allow authorized parties in the general contractor's supply chain to initiate RFIs. These secondary transactions would occur between the authorized party and the general contractor.

3.   On projects in which there are multiple prime contractors having contracts directly with the owner, any prime contractor would have formal authority to issue RFIs to the owner's prime design consultant.

4.   The Requestor prepares the RFI Request. This will describe the context and the information required. This will typically reference some specific part of the project and/or design information.

5.   The requestor may optionally prepare a recommended solution. This may include a recommended design solution, cost and schedule implications, etc.

6.   The requestor initiates the distribution of the RFI as described in the generic information/document distribution use case (including sending the request to the responder, typically the prime design consultant, and providing any necessary copies to other parties).

7.   The responder prepares a response or obtains one from others and distributes it, again according to the generic information/document distribution use case (including obtaining any necessary approvals, returning the response to the requestor, and distributing the response to other parties as required).

8. The requestor receives the response, confirms that the response is satisfactory to allow the requestor to act on the information provided, and distributes it to other parties as necessary.

9. Consequent action is taken based on the RFI information.

11. Alternative Flow of Events

1. If the responder cannot provide a timely response, the responder replies indicating that the response is pending and advising the requestor of the expected time for a full response and any interim instructions. A response is subsequently sent when it is ready.

2. If the response requires a change in the scope of work, a change order process is initiated.

3. The flow of events described in Section 10 above and in the Use Case Diagram below describes a primary transaction between a requestor and a responder without regard to the medium or method of the transaction. Automated, electronic systems may allow for the simultaneous distribution of an RFI request and response to multiple project stakeholders, and allow all parties to comment, with or without attachments. The responder may, at the responder's discretion, include some, all, or none of the comments and attachments received from other parties in the response.

Use Case Diagram: RFI

12.   Use Case Relationships: Inclusion and Extension

This use case extends the Generic Information/Document Distribution use case. The RFI distribution process can be quite flexible, and all of the alternative flows described in the Generic Information/Document Distribution use case are possible for the RFI. Most of the specific configurations will be specified in the contract documents, while some will be subject to the judgment of the participants based on the context of individual RFI's (e.g., a general contractor may exercise judgment about which RFI responses should be forwarded to each subcontractor).

13.   Controls

RFI's provide significant information in several aspects. They document issues raised during construction, they extend the design information, they document the responsiveness of the responders, they may initiate changes to the scope of work, etc. As such, they should be subject to a complete set of transaction controls including security, acknowledgements, non-repudiation, and so forth. The actions of any party to an RFI transaction (request, response, comment, attachment) must be attributable to their source, non-editable by others, and non-removable.

Since the issues leading to RFI's often arise only when the related construction activities are in progress, time is frequently of the essence and any delay in responding can cause construction inefficiencies, delays, and additional costs.

14.   Data

The generic information/document distribution use case defines generic document and distribution data requirements. In addition to these generic data, RFI's may include a "response requested by" date.

The content of the RFI can include any type of question or request for information. Frequently, however, it relates to specific design information and a specific project context. The RFI may list specific drawings or other references related to the question. Where a building information model exists, then, the RFI should be able to refer to specific design elements within the BIM, specific versions of the design information, as well as project context elements such as locations, construction phases, or construction activities.

In addition to references in the body of an RFI, either the request or the response may include attachments that form part of the content of the RFI. The name or title of an attachment, the original authorship of the attachment (if other than the attaching party), the identity of the attaching party, and any modifications made to the attachment by the attaching party must be tracked.

Attachments, or data referenced by links to remote sources of information, must be static—non-editable beyond the moment that they are referenced.

If the requester includes a proposed solution, this solution may take the form of a partial design, cost information, schedule information, etc. This information could potentially take the form of a partial building information model.

Likewise, the response may contain any type of information, but it will frequently constitute additional or revised design information which could be represented in whole or in part as a version of a partial BIM model.

15.   Outstanding Issues

None at this time.