

Process Model for US Building Regulatory Agencies

Process Name	Regulating US Building Construction
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Identifier	pm_regulating_us_building_construction
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Exchange Requirements	ER_License_App
	ER_License
	ER_Permit_App
	ER_Permit
	ER_AC3_BIM
	ER_Review_Comments
	ER_Inspect_Request
	ER_Inspect_Cert
	ER_Mat_Eqmt_Cert_App
	ER_Mat_Eqmt_Info
	ER_Mat_Eqmt_Cert
	ER_Eqmt_Reg_App
	ER_Eqmt_Reg_Info
	ER_Eqmt_Reg_Cert
	ER_Eqmt_Inspect_Req
	ER_Eqmt_Violations
	ER_Eqmt_Reg_Cert
	ER_Complaint
	ER_Complaint_Dis
	ER_Violation_Notice
ER_Eqmt_Use_App	
ER_Eqmt_Use_Info	
ER_Eqmt_Use_Pmt	

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Overview

The International Code Council (ICC) facilitates development of most of the building codes in the US and in a growing list of Latin American countries. Its membership includes most of the building departments, as well as many real estate development, design, and engineering organizations across the US.

This Process Model documents the process and information exchange recommended by ICC to its member building department organizations for regulating construction in their jurisdictions (building permits, inspection, equipment registration, use permits, etc.). It has been developed according to the standard Information Delivery Manual (IDM) Development Methodology (version 2) as published in June 2007.

The Process Models

The Process Model for Regulating US Building Construction has been decomposed into 10 sub-processes as follows:

1. Licensing
2. Building Permitting
3. Plan Checking
4. Site Inspection
5. Material & Equipment Certification
6. Maintenance Reporting
7. Complaint Handling
8. Enforcement
9. Equipment Registration
10. Use Permitting

These 10 processes span the scope responsibilities and authorities of building departments for a building project – from initial application for a permit to build through to building occupancy. However, some the processes have been updated to recognize and leverage modern software tools available to automate and simplify some tasks.

IDM Standard Project Stages

As is done in all IDMs, the standard exchange requirements for these processes are identified for building project stages defined within the Generic Process Protocol (GPP). These are described below with their stage number as used in the exchange requirements documents, description and definition from the GPP.

The Process Model presented herein is focused on Pre-Construction and Construction stages (see dark outline below), as building departments have minimal involvement in projects before these stages.

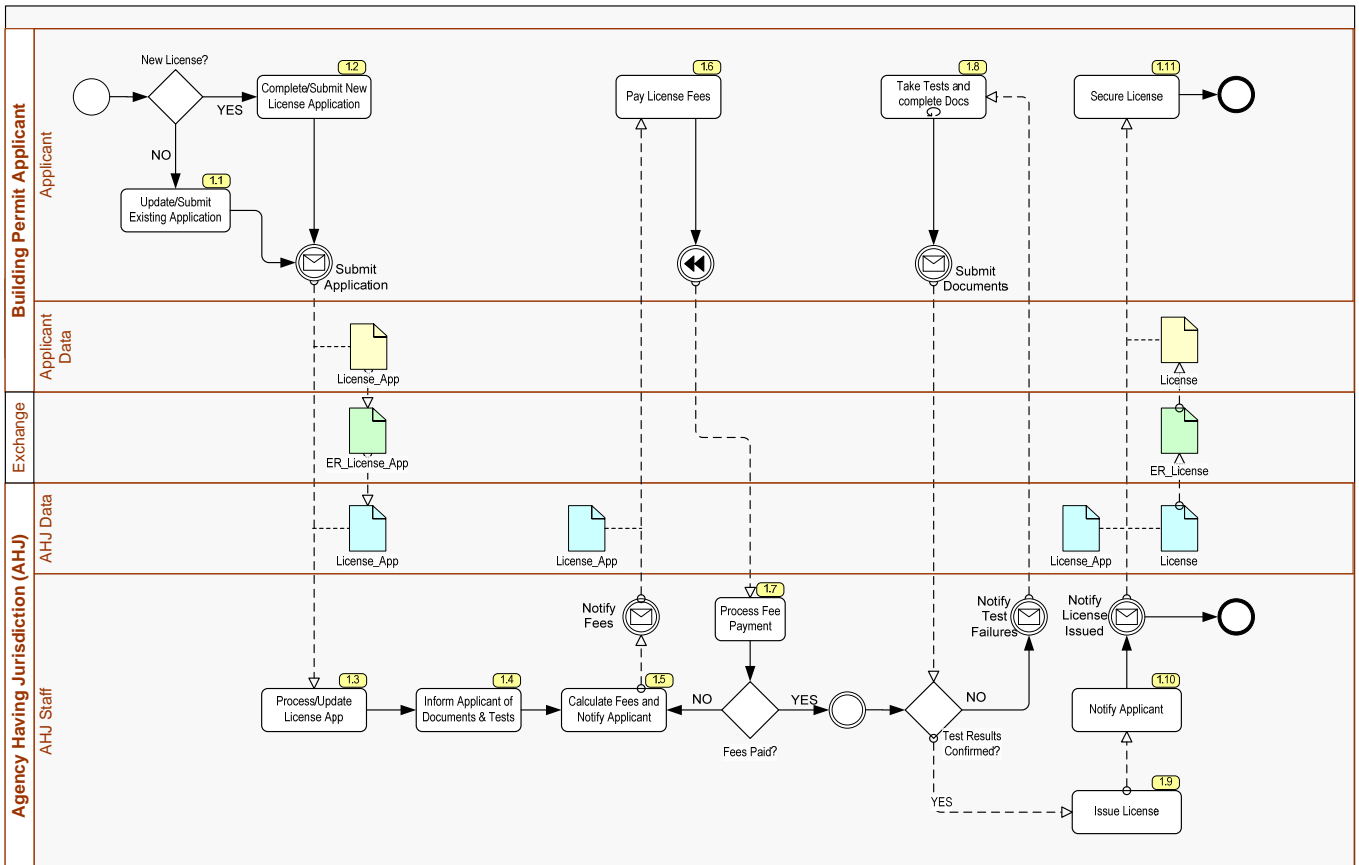
Table 1: Project stages adapted from the Generic Process Protocol

Stage	Description	Definition
Pre-project stages		
0	Portfolio requirements	Establish the need for a project to satisfy the clients business requirement
1	Conception of need	Identify potential solutions to the need and plan for feasibility
2	Outline feasibility	Examine the feasibility of options presented in phase 1 and decide which of these should be considered for substantive feasibility
3	Substantive feasibility	Gain financial approval
Pre-Construction stages		
4	Outline conceptual design	Identify major design elements based on the options presented
5	Full conceptual design	Conceptual design and all deliverables ready for detailed planning

		approval
6	Coordinated design (and procurement)	Fix all major design elements to allow the project to proceed. Gain full financial approval for the project
Construction stages		
7	Production Information	Finalise all major deliverables and proceed to construction.
8	Construction	Produce a product that satisfies all client requirements. Handover the building as planned.
Post-construction stages		
9	Operation and maintenance	Operate and maintain the product effectively and efficiently.
10	Disposal	Decommission, dismantle and dispose of the components of the project and the project itself according to environmental and health/safety rules

Process Model

[P1] Licensing



© 2008 International Code Council	ICC Building Code Checking Process		source: ICC Process Doc
	Process Model: [P1] Licensing		author: Richard See, Jeff Wix, NIST
	File: ICC_Code_Process_Diagrams_11.vsd		version: 0.95
			status: Candidate Final
			created: 16Jun07
			modified: 3Mar08

Process Name	P1 Licensing
Task and Definition	When required by the jurisdiction, a contractor must have a valid license issued by the appropriate jurisdiction. A license has an expiration data and it can be renewed upon

	expiration.
Actors	Applicant (general a Contractor), government official, intake staff, routing and scheduling staff
Data Inputs	License information (contractor information, test results, etc.)
Data Outputs	License
Systems Involved	License Module

[ID: 1.1] Update and Submit Existing Application	
Type	Task – Complete/Submit New License Application
Documentation	In the case of a license renewal, updates name, address, phone numbers, etc. Submit data specified in ER_License_App.

[ID: 1.2] Complete/Submit New License Application	
Type	Task
Documentation	If this is an application for a new license, a new record is created based on license type, name, address, and contact phone of the applicant. A tracking number is issued. Based on the type of license, a search can identify what type of work the applicant is allowed to perform. Submit data specified in ER_License_App.

[ID: 1.3] Process/Update License Application	
Type	Task
Documentation	Jurisdiction staff receives the application and data submitting using er_licensing_app is mapped into data fields in the jurisdiction’s licensing software module.

[ID: 1.4] Inform Applicant of Documents & Tests	
Type	Task
Documentation	Jurisdiction staff informs the applicant of any necessary documentation and tests required for this license to be issued.

[ID: 1.5] Calculate Fees and Notify Applicant	
Type	Task
Documentation	Jurisdiction staff calculates the necessary fees (application fee, licensing fee, etc.), documents them in the license application record (in the licensing module), and notifies the applicant about the fees.

[ID: 1.6] Pay License Fees	
Type	Task
Documentation	Applicant pays the required fees.

[ID: 1.7] Process Fee Payment	
Type	Task
Documentation	Jurisdiction staff collects and processes the fees and then changes the application record status in the license module to 'paid.'

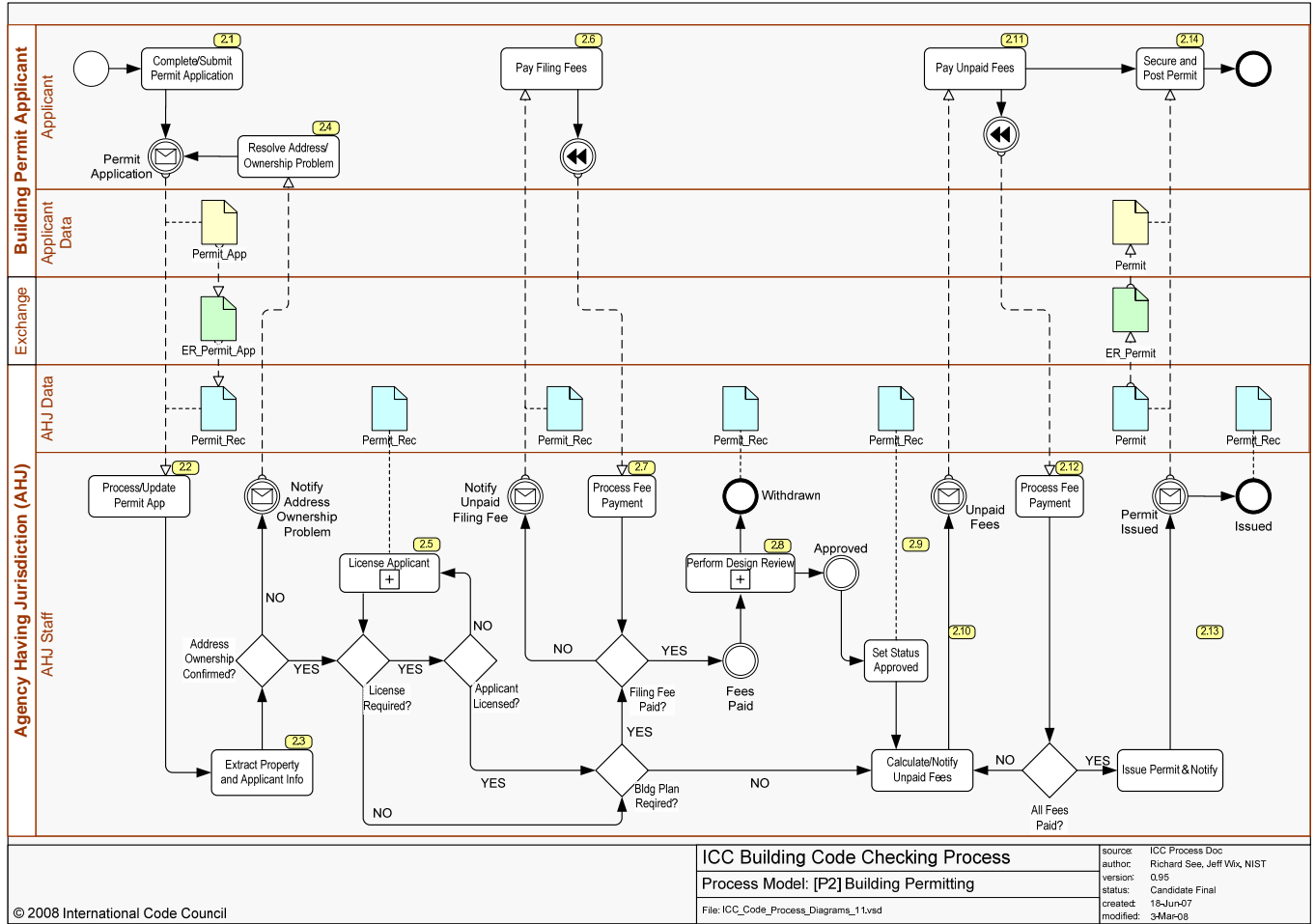
[ID: 1.8] Take Tests and Complete Docs	
Type	Task
Documentation	Applicant takes the required tests and submits documentation.

[ID: 1.9] Issue License	
Type	Task
Documentation	<p>If all documentation and test results are submitted and all fees are paid, Jurisdiction staff issues the license. License expiration date and any conditions that limit the applicability or use of the license are recorded as part of the license record in the licensing software module.</p> <p>The license issued must include the data specified in ER_License, either as a printed or electronic document.</p> <p>If documentation is missing, test results are not confirmed, or fees are not fully paid, Jurisdiction staff notifies the applicant so that the deficiencies can be addressed.</p>

[ID: 1.10] Notify Applicant	
Type	Task
Documentation	Jurisdiction staff notifies the applicant that the license has been issued.

[ID: 1.11] Secure License	
Type	Task
Documentation	Applicant picks up or prints the license document and posts it as required.

[P2] Building Permitting



Process Name	P2 Building Permitting
Task and Definition	Building projects are required to have one or more permits issued by the local jurisdiction. A permit is necessary to ensure that building projects meet a variety of building code standards.
Actors	Applicant (general a Contractor), government official, intake staff, routing and scheduling staff
Data Inputs	Permit information (building information, contractor information, items to be licensed, etc.)
Data Outputs	Building permit and permit status
Systems Involved	Permit Module

[ID: 2.1] Complete/Submit Permit Application	
Type	Task
Documentation	<p>The application requires information about the building owner such as: name, address; information about the permit type; and information about the contractor such as: name, address, licensing, and contact phone numbers.</p> <p>The applicant submits to the local jurisdiction, a building permit application. The applicant may also submit other documents with the application, such as plans, specifications, calculations, sketches, etc. See P3 – Design Review below.</p> <p>The application may be submitted in any of the following ways:</p> <ul style="list-style-type: none"> • Paper document – in person (paper doc submitted at the jurisdiction offices) • Electronic document – in person (media submitted at the jurisdiction offices) • Paper document – by facsimile

	<ul style="list-style-type: none"> • Electronic document – by facsimile (fax from software application) • Electronic documents – via the internet (upload to permit application portal) <p>The submitted permit application should include all the mandatory data specified in ER_Permit_App</p>
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[ID: 2.2] Process/Update Permit Application

Type	Task
Documentation	<p>Jurisdiction staff creates a new permit record which captures information in the application, assigns a permit tracking number, and sets the permit status to ‘pending.’</p> <p>The data in ER_Permit_App is either entered manually (if submitted as paper) or imported from the ER_Permit_App document into the jurisdiction’s permitting software module.</p>

[ID: 2.3] Extract Property and Applicant Information

Type	Task
Documentation	<p>Jurisdiction staff checks local and state government records to verify that the property is owned by the applicant (or applicant’s client) and to verify that the applicant is license for the type of project for which a permit is requested.</p>

[ID: 2.4] Resolve Address/Ownership Problem

Type	Task
Documentation	<p>If any issues are discovered in 2.3, jurisdiction staff will notify the applicant to provide adequate information to resolve the issues.</p>

[ID: 2.5] License Applicant

Type	Sub-Process
Documentation	<p>Jurisdiction staff will check to see if a license is required. If so, they will check to confirm if the applicant is licensed. If the applicant is not licensed, jurisdiction staff will provide information on the licensing process (see P1- Licensing). The permit record is updated with relevant licensing information.</p>

[ID: 2.6] Pay Filing Fees

Type	Task
Documentation	<p>The applicant pays the filing fees.</p>

[ID: 2.7] Process Fee Payment

Type	Task
Documentation	<p>Jurisdiction staff collects and processes the fees and then updates the permit record status in the permitting module to show the filing fee as ‘paid.’</p>

[ID: 2.8] Perform Design Check

Type	Sub-Process
Documentation	Jurisdiction staff reviews the permit record to determine if a design review is required. If so, they determine the type(s) of information required, types of reviews to be performed, and assign a design review tracking number. The permit record is updated accordingly. See P3 Design Review for more detail on this sub-process.

[ID: 2.9] Set Status Approved

Type	Task
Documentation	When the design review is complete and the design is approved for construction, jurisdiction staff set the permit status to 'approved'.

[ID: 2.10] Calculate/Notify Unpaid Fees

Type	Task
Documentation	Jurisdiction staff calculates any remaining fees required for the permit to be issued

[ID: 2.11] Pay Unpaid Fees

Type	Task
Documentation	The applicant pays the remaining fees

[ID: 2.12] Process Fee Payment

Type	Task
Documentation	Jurisdiction staff collects and processes the fees and then updates the permit record status in the permitting module to show all fees as 'paid.'

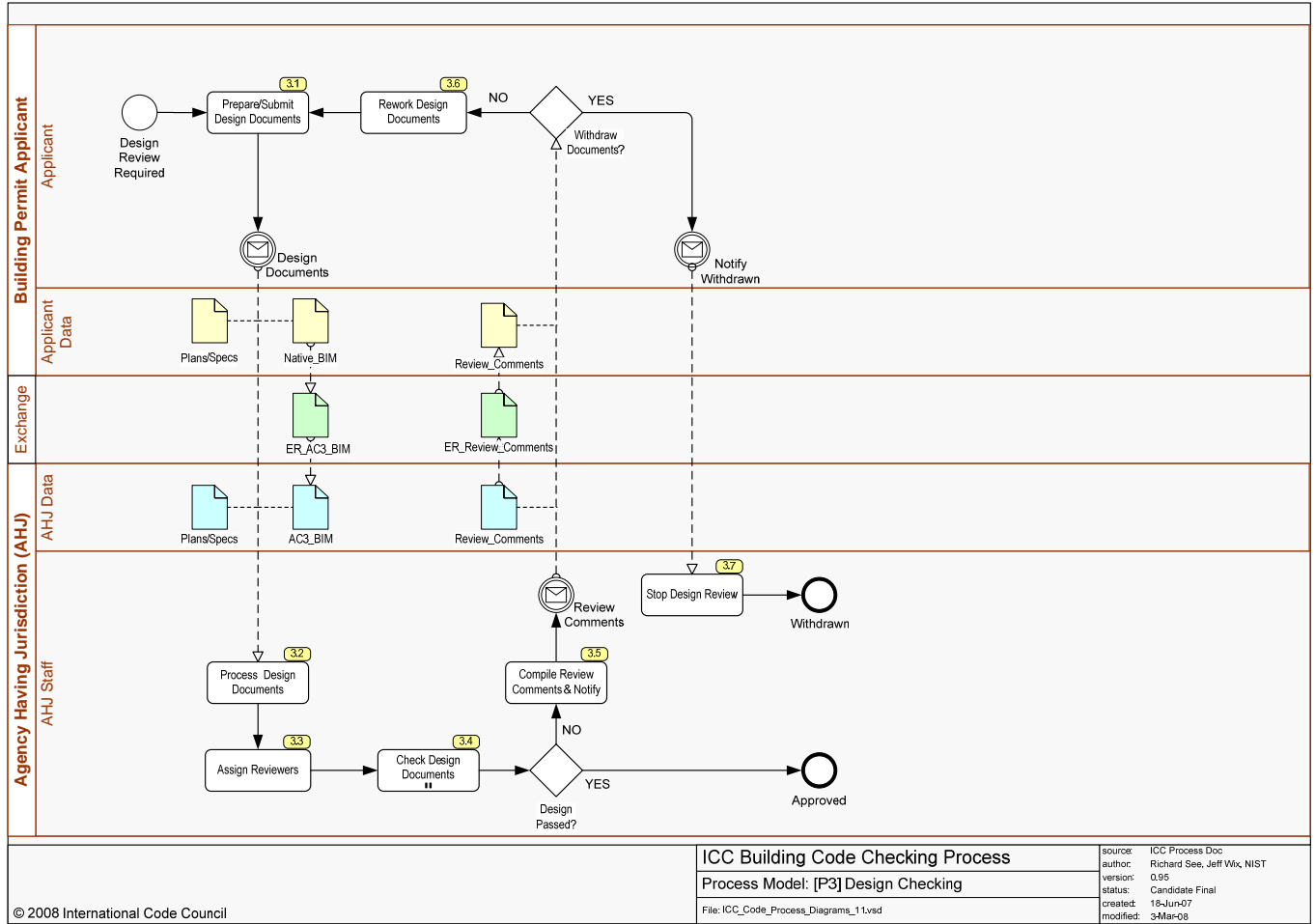
[ID: 2.13] Issue Permit & Notify

Type	Task
Documentation	If the design shows as 'approved' and all fees show as 'paid' in the permit record, jurisdiction staff issues the permit, notifies the applicant, and updates the permit status from 'pending' to 'issued'. A permit expiration date is also added to the record. The Permit must include the data specified in ER_Permit, either as a printed or electronic document.

[ID: 2.14] Secure and Post Permit

Type	Task
Documentation	The applicant secures the permit document (in person or electronically) and posts it as required on the construction site.

[P3] Design Review



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ICC Building Code Checking Process		source: ICC Process Doc
Process Model: [P3] Design Checking		author: Richard See, Jeff Wix, NIST
		version: 0.95
		status: Candidate Final
		created: 15Jun07
		modified: 3Mar08
File: ICC_Code_Process_Diagrams_11.vsd		

Process Name	P3 Design Review
Task and Definition	Construction projects must receive approval of detailed construction plans. Each type of work must be submitted for review to the appropriate section within the design review division of the permitting agency having jurisdiction.
Actors	Applicant (general a Contractor), design reviewers
Data Inputs	Design review information (review type, required design documents, etc.)
Data Outputs	Review comments, review status (approved or not)
Systems Involved	Design Review Module

[ID: 3.1] Complete/Submit Design Documents	
Type	Task
Documentation	<p>Applicant completes all the documentation required for the type of permit/review required for the type of permit applied for in P2 (Building Permitting). Applicant submits all documents required for review in connection with the permit record developed in P2.</p> <p>Central to this submission in an Electronic Design Review is a Building Information Model (BIM) which conforms to the ICC Code Checking View – which contains all of the data specified by ER_AC3_BIM for the building construction to be permitted.</p>

[ID: 3.2] Process Design Documents

Type	Task
Documentation	<p>Jurisdiction staff receive, catalog, tag all design review documents with the permit tracking number, and put the project in the design review queue.</p> <p>Where a BIM has been submitted, jurisdiction staff will perform data validation to check that the BIM conforms to the requirements of the ICC Code Checking View (ac_ac3_bim). If the BIM is found to be incomplete, the applicant will be notified of the incomplete submission and given the option to (a) proceed with a 'preliminary review' or (b) complete the model before a formal review will be completed. Preliminary Design Reviews will, of course, incur a review fee.</p>

[ID: 3.3] Assign Reviewers

Type	Task
Documentation	<p>Jurisdiction design review staff assigns one or more reviewers to the review project, based on their expertise and/or areas of responsibility. In some jurisdictions, there can be many reviewers, depending on the level of specialization. Design documents are filed, until reviewers become available to check out documents for review.</p>

[ID: 3.4] Check Design Documents

Type	Task
Documentation	<p>Design review staff review the design for compliance to applicable building codes and generate comments for the Applicant. Comments are often attached directly to the design documents, but are always linked to the permit record electronically.</p> <p>Design review staff will use SMARTcodes compatible applications to automate portions of the design check, based on information in the ER_AC3_BIM compliant BIM.</p>

[ID: 3.5] Compile Review Comments & Notify

Type	Task
Documentation	<p>When all the required reviews are complete, Design Review staff will compile all comments in a document format that includes all the data specified in ER_Review_Comments -- and provide the comments back to the applicant – either electronically (email) or in person (on paper).</p>

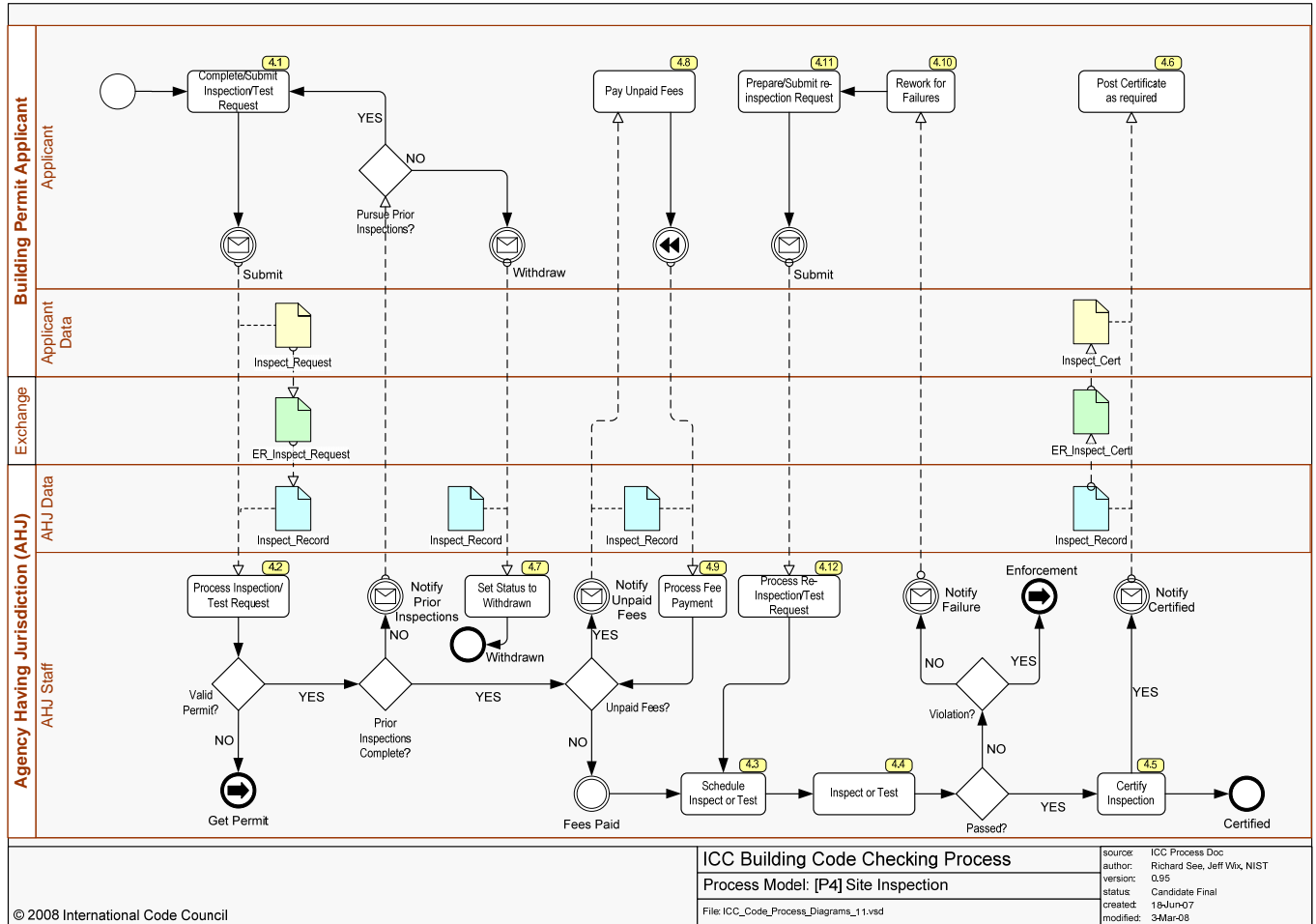
[ID: 3.6] Rework Design Documents

Type	Task
Documentation	<p>Applicant modifies the BIM and/or design documents to address comments by the jurisdiction design review team. When all comments related to non-conformance with building codes are addressed, the Applicant resubmits the BIM and/or design documents (see 3.1 above).</p>

[ID: 3.7] Stop Design Review

Type	Task
Documentation	<p>If the Applicant decides to withdraw their application for permit, jurisdiction staff will notify design review staff to stop all ongoing design reviews and will set the status of the permit record to 'withdrawn.'</p>

[P4] Site Inspection



Process Name	P4 Site Inspection
Task and Definition	Jurisdictions are required to perform on-site building inspections to ensure that the construction is consistent with the design that was approved and compliant with all applicable building codes prior to issuance of an occupancy permit. Note that inspections can be requested online, in which case some of the tasks shown below are done online.
Actors	Applicant (general a Contractor), Inspector
Data Inputs	Inspection information (permit number, type of inspection, contractor information, etc.)
Data Outputs	Inspection comments, inspection status (approved or not), permit of occupancy
Systems Involved	Inspection Module

[ID: 4.1] Complete/Submit Inspection/Test Request	
Type	Task
Documentation	If this is a new request, the Applicant complete and submits a request for inspection associated with the assigned permit number. This will be done using a form that includes all of the data specified in ER_Inspect_Request and can be done in person or online.

[ID: 4.2] Process Inspection/Test Request	
Type	Task
Documentation	Jurisdiction staff creates an inspection record by importing data from the ER_Inspect_Request form, associate it with the permit, and set the status to 'requested'. Jurisdiction staff then reviews the request and check the status of the permit. If the permit is not valid, the Applicant is given information about the permitting process (see P2). Jurisdiction staff next checks to see that all prerequisites for this inspection have been completed for this project/permit. If some prerequisites are not yet complete, the Applicant is given information about the prerequisites that must be complete before the requested inspection can be assigned.

[ID: 4.3] Schedule Inspection or Test	
Type	Task
Documentation	If the permit is valid, all prerequisites are complete, and all outstanding fees have been paid, Jurisdiction staffs assign an inspector, based on the type of project and inspection requested. They also assign a date for the inspection based on the assigned inspector's schedule.

[ID: 4.4] Inspection or Test	
Type	Task
Documentation	Jurisdiction inspections staff complete any pre-inspection work (research, etc.) required in advance of the scheduled inspection date. The inspection is completed on the assigned date, inspection results are recorded in the inspection record, and the inspection status is set to 'approved' or 'rejected'. If rejected, jurisdiction staff will notify the Applicant and provide information about how to remedy the failure. In the event a code violation is observed, the inspector will issue a 'stop work' order and initiate the jurisdiction Enforcement process (see P8).

[ID: 4.5] Certify Inspection	
Type	Task
Documentation	In the event the inspection is approved, the inspection software module will generate an inspection certificate that contains all of the data specified in ER_Inspect_Cert. Jurisdiction staff will then notify the Applicant of the approval to proceed with construction and provide the inspection certificate (electronically or in person). When construction is complete and all final inspections are approved, the Jurisdiction will issue a permit for human occupancy of the building.

[ID: 4.6] Post Certificate as Required	
Type	Task
Documentation	In some cases (as for final occupancy), the Applicant will be required to post the certificate on the job site or in the completed building.

[ID: 4.7] Set Inspection Status to Withdrawn	
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Type	Task
Documentation	If the Applicant decides not to pursue completion of the prerequisites for the requested inspection, they can withdraw their request for inspection. In this case, Jurisdiction staff will change the status of the inspection record to 'withdrawn'.

[ID: 4.8] Pay Unpaid Fees

Type	Task
Documentation	In the event the Applicant is notified of one or more unpaid fees associated with the permit, the Applicant must pay the fees before processing of the inspection request will be processed.

[ID: 4.9] Process Fee Payment

Type	Task
Documentation	Jurisdiction staff collects and processes the fees and then updates the permit record to show all fees as 'paid.'

[ID: 4.10] Rework for Inspection/Test Failures

Type	Task
Documentation	In the event the inspection is rejected, the Applicant (contractor) must rework the building in accordance with the resolution instructions provided by the jurisdiction.

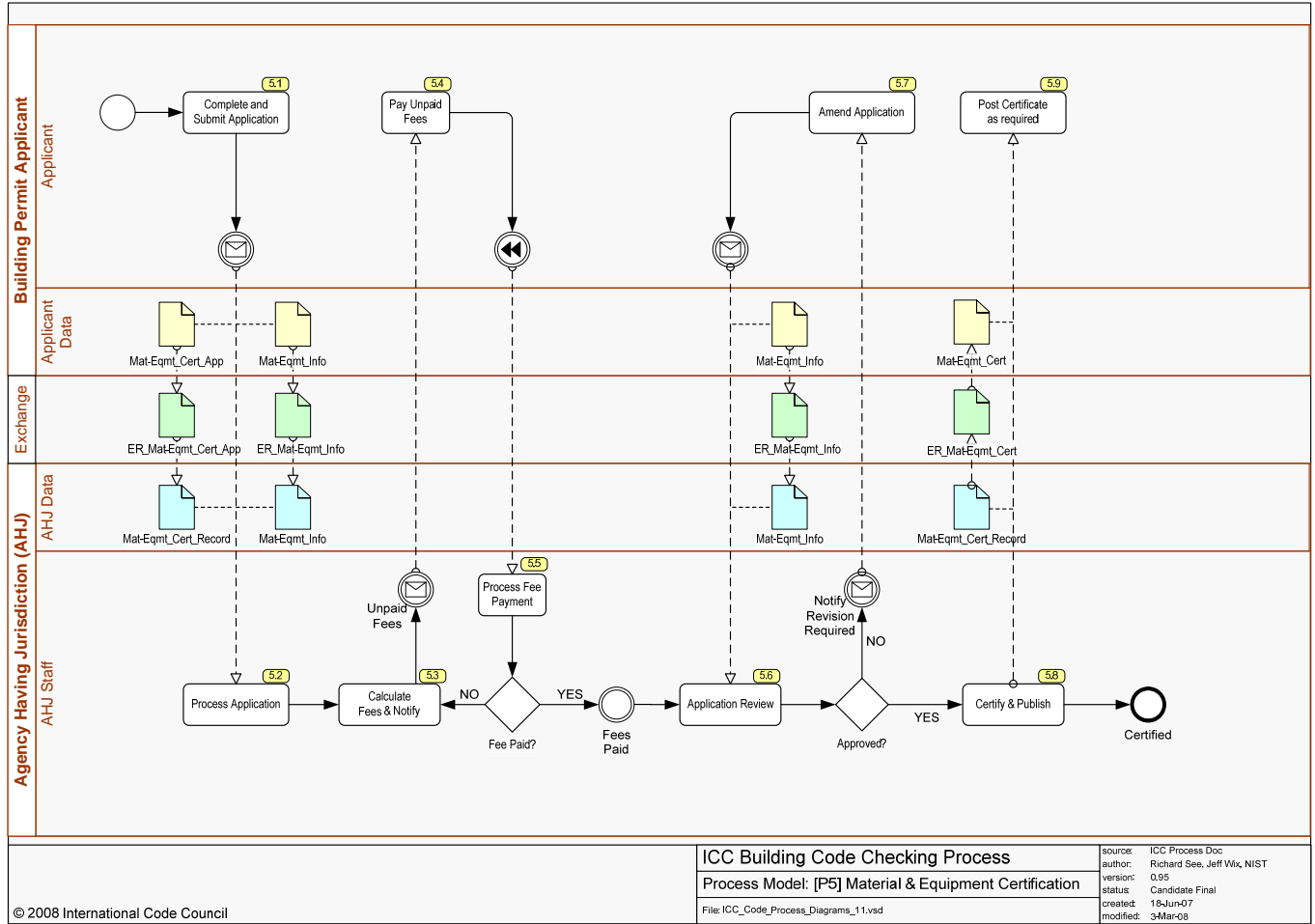
[ID: 4.11] Prepare/Submit Re-Inspection Request

Type	Task
Documentation	When the Applicant (contractor) has completed the rework, the Applicant submits a request for re-inspection, providing the assigned permit number, and using a re-inspection request form that includes all the data specified in ER_Inspect_Request. This can be done in person or online.

[ID: 4.12] Process Re-Inspection/Test Request

Type	Task
Documentation	In processing the re-inspection request, jurisdiction staff re-confirm that all prerequisites are complete and set the status as ready for assignment/scheduling (see 4.3)

[P5] Material & Equipment Certification



Process Name	P5 Material & Equipment Certification
Task and Definition	This process defines the steps required to attain a certification for the use of a new material or piece of equipment in the jurisdiction.
Actors	Product Manufacturer or Product User (general a Contractor)
Data Inputs	Material/Equipment information (manufacturer, uses, technical specs, etc.)
Data Outputs	Certification for use, Published list of approved materials
Systems Involved	Materials Management Module

[ID: 5.1] Complete and Submit Application

Type	Task
Documentation	The applicant completes an application form (paper or online) that includes all of the data specified in ER_Mat_Eqmt_Cert_App and attaches (paper or uploaded files) supporting documentation that includes all data specified by ER_Mat_Eqmt_Info.

[ID: 5.2] Process Application

Type	Task
Documentation	Jurisdiction staff creates a Materials/Equipment Record by importing (or transcribing) the ER_Mat_Eqmt_Cert_App data from the application and then importing (or transcribing) the ER_Mat_Eqmt_Info data from the supporting documents (scanned or received as

	attachments).
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[ID: 5.3] Calculate Unpaid Fees	
Type	Task
Documentation	Jurisdiction staff or the Materials Management Module calculates the application fees and notify the Applicant.

[ID: 5.4] Pay Unpaid Fees	
Type	Task
Documentation	The Applicant pays any unpaid fees.

[ID: 5.5] Process Fee Payment	
Type	Task
Documentation	Jurisdiction staff collects and processes the fees and then updates the Materials/Equipment Record to show all fees as 'paid.'

[ID: 5.6] Application Review	
Type	Task
Documentation	The application is reviewed by one or more technical inspectors (depending on the material or equipment type), after which the application is approved or rejected with comments/objections. The Materials/Equipment Record is updated accordingly and the Applicant is notified.

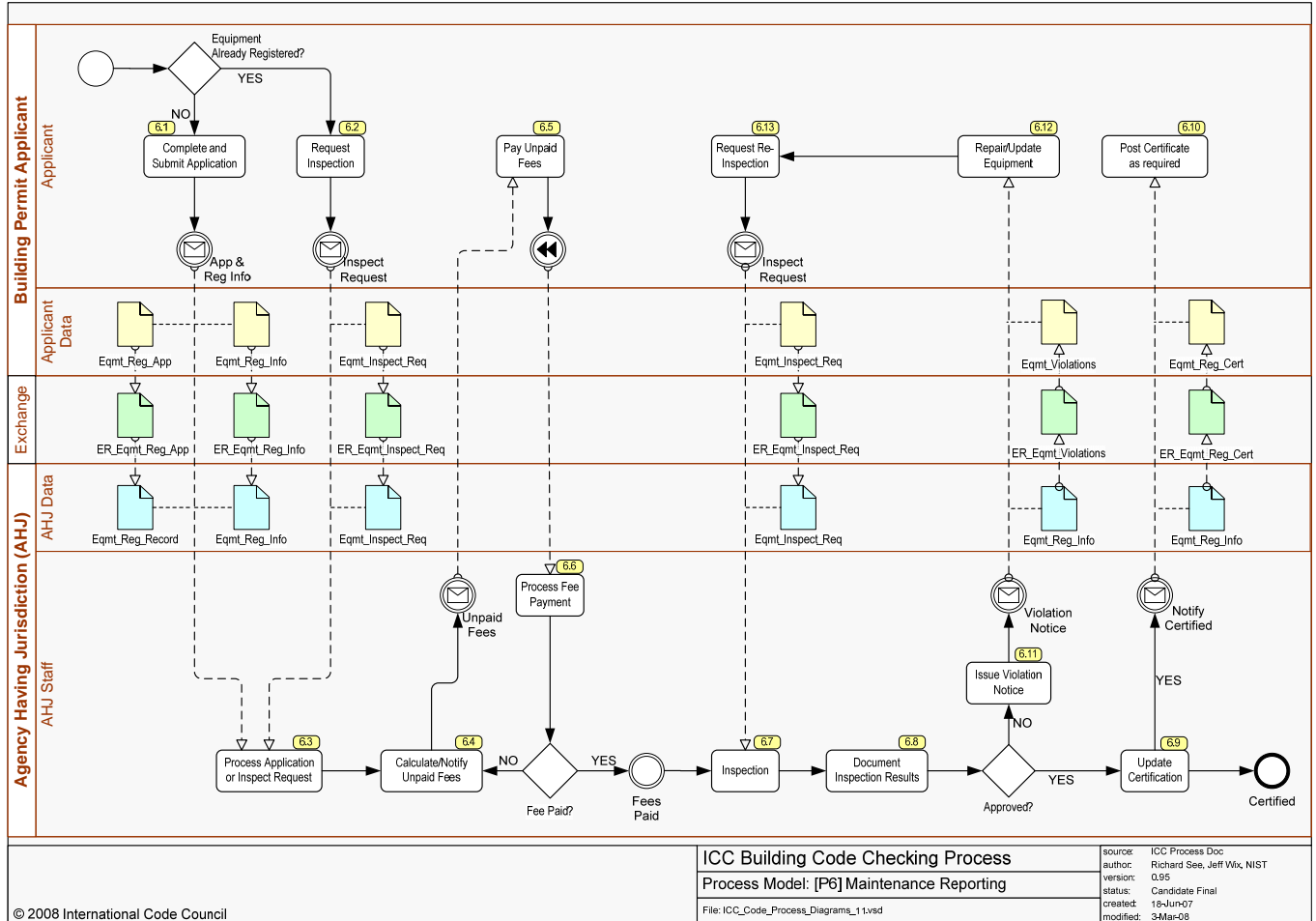
[ID: 5.7] Amend Application	
Type	Task
Documentation	If the technical reviewer has objections, the Applicant has the opportunity to amend their application or to submit further supporting documentation that includes the data specified in ER_Mat_Eqmt_Info. If the Applicant does not submit an amendment, the status of the Materials/Equipment Record remains 'rejected'

[ID: 5.8] Certify and Publish	
Type	Task
Documentation	Once the technical reviewer(s) approve the application, the Materials/Equipment Record status is updated to 'approved', the Materials Management software module will generate a 'certificate for use' that includes all the information specified in ER_Mat_Eqmt_Cert, the Applicant is issued the certificate for use, and the item is added to the jurisdiction's master list of approved materials and equipment.

[ID: 5.9] Post Certificate as Required	
Type	Task

Documentation	The Applicant will post the certificate on the job/building site as required by accompanying instructions.
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[P6] Maintenance Reporting



© 2008 International Code Council	ICC Building Code Checking Process Process Model: [P6] Maintenance Reporting File: ICC_Code_Process_Diagrams_1.vsd	source: ICC Process Doc author: Richard See, Jeff Wix, NIST version: 0.95 status: Candidate Final created: 18-Jun-07 modified: 3-Mar-08
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Process Name	P6 Maintenance Reporting
Task and Definition	This process defines the steps required to attain an owner registration for equipment in a building.
Actors	Building Owners, government officials, intake staff, routing and scheduling staff, inspector
Data Inputs	Equipment information (owner, uses, technical specs, etc.)
Data Outputs	Equipment Registration
Systems Involved	Building Equipment Management Module

[ID: 6.1] Complete and Submit Application

Type	Task
Documentation	If the equipment is not already registered, the applicant will complete and submit an application form (paper or online) that requires all of the information specified in ER_Eqmt_Reg_App. They will also submit (paper or uploaded files) supporting documents for the equipment that include all the information specified in ER_Eqmt_Reg_Info.

[ID: 6.2] Request Inspection	
Type	Task
Documentation	Once the equipment is registered with the jurisdiction, the Applicant will request inspections based on a schedule prescribed by the jurisdiction upon registration. The Applicant will complete and submit a form (paper or online) that requires all of the information specified in ER_Eqmt_Inspect_Req.

[ID: 6.3] Process Application or Inspection Request	
Type	Task
Documentation	Jurisdiction staff creates a Building Equipment Record by importing (or transcribing) the information in the ER_Eqmt_Reg_App form, and links supporting information by importing (or transcribing) the information in the ER_Eqmt_Reg_Info documents.

[ID: 6.4] Calculate/Notify Unpaid Fees	
Type	Task
Documentation	Jurisdiction staff or the Building Equipment Management Module calculates the application and/or inspection fees and notify the Applicant.

[ID: 6.5] Pay Unpaid Fees	
Type	Task
Documentation	The Applicant pays any unpaid fees.

[ID: 6.6] Process Fee Payment	
Type	Task
Documentation	Jurisdiction staff collects and process the fees and then updates the Building Equipment Management Record to show all fees as 'paid.' Jurisdiction staff then schedules the inspection.

[ID: 6.7] Inspection	
Type	Task
Documentation	The equipment is inspected onsite by a jurisdiction inspector

[ID: 6.8] Document Inspection Results	
Type	Task
Documentation	Inspection results are documented in the Building Equipment Management Record.

[ID: 6.9] Update Certification	
Type	Task
Documentation	In the event the equipment passes the inspection, certification is added to or updated in the Building Equipment Management Record. The Building Equipment Management software

	module will also generate a certificate that includes all the information specified in ER_Eqmt_Reg_Cert. The Applicant is notified of the certification and receives the certificate (electronically or in person) with instructions for posting on or near the equipment at the building site.
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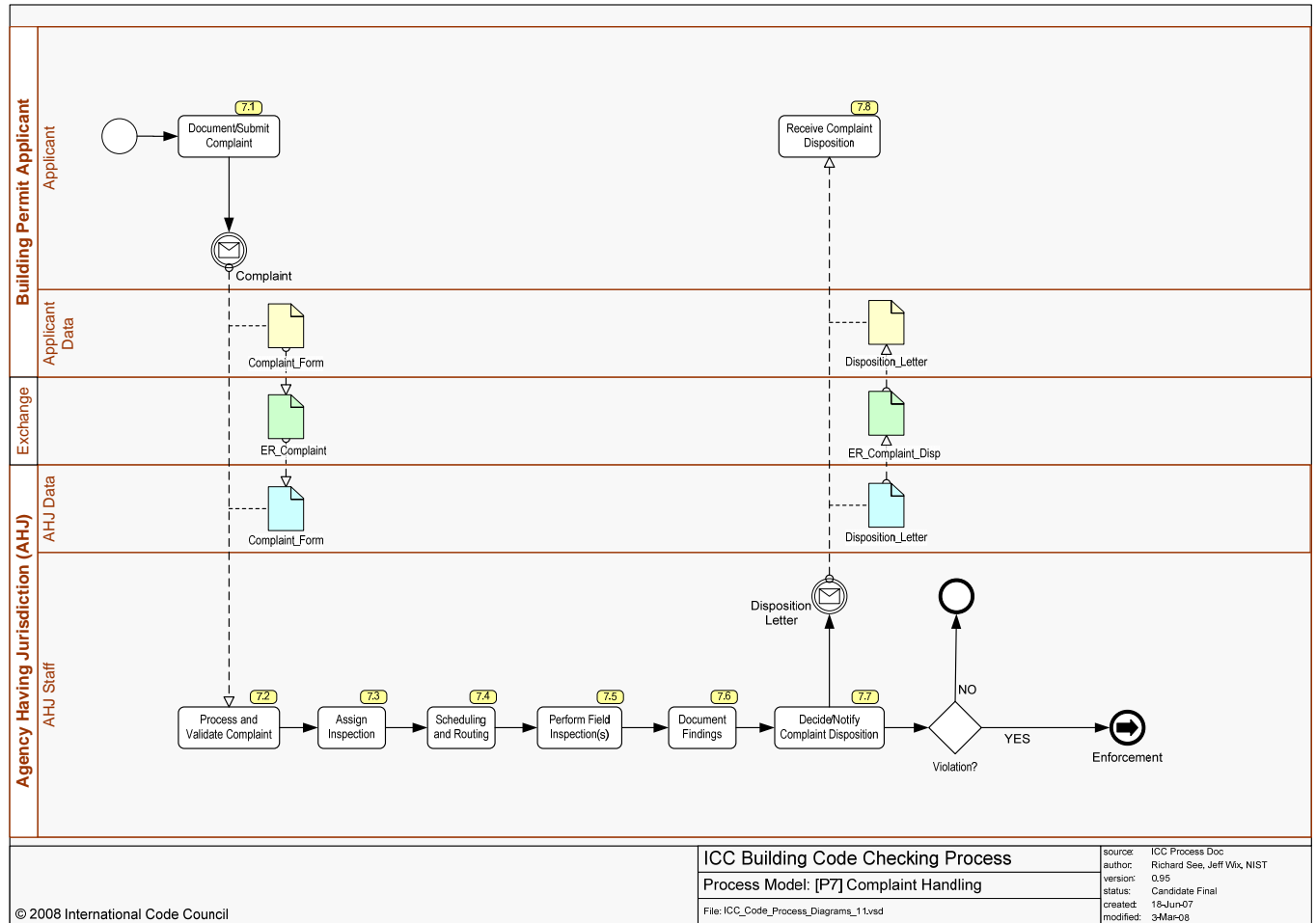
[ID: 6.10] Post Certificate as Required	
Type	Task
Documentation	The Applicant posts the certificate on or near the equipment.

[ID: 6.11] Issue Violation	
Type	Task
Documentation	In the event the equipment does not comply with codes or other jurisdiction requirements, a violation notice that includes all the information specified in ER_Eqmt_Violations will be generated by the Building Equipment Management software module and issued to the Applicant with information about how to remedy the violation(s). The Building Equipment Management Record will also be updated to show the certification status as 'In Violation.'

[ID: 6.12] Repair/Update Equipment	
Type	Task
Documentation	The Applicant must then update or repair the equipment to bring it into compliance.

[ID: 6.13] Request Re-Inspection	
Type	Task
Documentation	Once the repair/update is complete, the Applicant must request a re-inspection in the manner described in 6.2

[P7] Complaint Handling



ICC Building Code Checking Process		source: ICC Process Doc
Process Model: [P7] Complaint Handling		author: Richard See, Jeff Wix, NIST
		version: 0.95
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Process Name	P7 Complaint Handling
Task and Definition	This process defines the steps involved in jurisdiction intake, inspection, and disposition of complaints from the community.
Actors	General public, government officials, intake staff, routing and scheduling staff, inspector
Data Inputs	Location and nature of the complaint, complainant contact information
Data Outputs	Inspection outcome, violations or other actions, complaint disposition
Systems Involved	Complaint Tracking Module

[ID: 7.1] Document/Submit Complaint

Type	Task
Documentation	The Complainant supplies completes a complaint form (paper or electronic) that captures all of the information specified in ER_Complaint -- regarding the location and the nature of the complaint.

[ID: 7.2] Process and Validate Complaint

Type	Task
Documentation	Jurisdiction staff verifies the address to ensure that it is valid and checks to see there are any already existing complaints for that address. If no previous complaint exists, Jurisdiction staff creates a Complaint Record in the Complaint Tracking software module by importing (or

	transcribing) information in the ER_Complaint complaint form. If necessary, the complaint may be transferred to other authorities.
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[ID: 7.3] Assign Inspection	
Type	Task
Documentation	An inspection is assigned to the appropriate inspector or inspection unit, based on geo-demarcation and or the nature of the complaint.

[ID: 7.4] Scheduling and Routing	
Type	Task
Documentation	The inspection is scheduled, based on a target due date and inspector availability. Route optimization is done to minimize travel time between inspection locations and inspections for complaints will often be inter-mingled with construction site inspections.

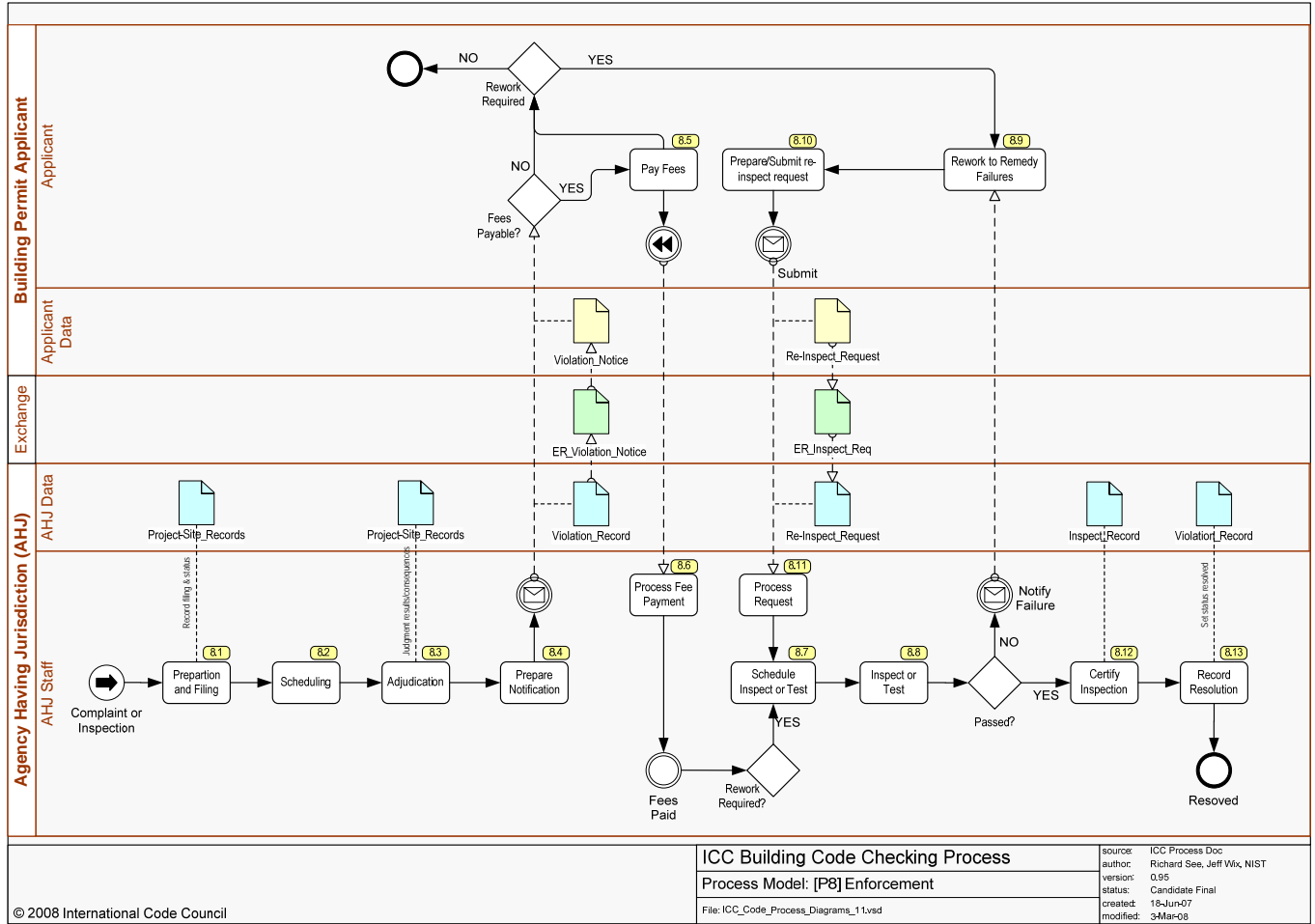
[ID: 7.5] Perform Field Inspection(s)	
Type	Task
Documentation	Inspection is completed onsite and results are captured on paper or in a mobile device.

[ID: 7.6] Document Findings	
Type	Task
Documentation	Findings from the inspection are entered into the Complaint Record. The inspector is expected to recommend one of three coursed of action: <ul style="list-style-type: none"> (a) violation or citation will be issued in non-emergency cases, (b) a series of violation/citation notices and required activities the situation is seen as dangerous or an emergency (c) no violation found.

[ID: 7.7] Decide/Notify Complaint Disposition	
Type	Task
Documentation	Jurisdiction authorities make a final decision on handling of the complaint, considering the inspection findings and recommendation. If they decide to pursue options (a) or (b), a Disposition Letter, including all the information specified in ER_Complaint_Disp, will be sent to the registered owners of the property. This letter informs the owners that a violation has been confirmed and an enforcement process is being initiated (see P8 – Enforcement).

[ID: 7.8] Receive Complaint Disposition	
Type	Task
Documentation	Owners of the subject property receive notification from the jurisdiction about the violation and impending enforcement process.

[P8] Enforcement



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ICC Building Code Checking Process		source: ICC Process Doc
Process Model: [P8] Enforcement		author: Richard See, Jeff Wix, NIST
		version: 0.95
		status: Candidate Final
		created: 15Jun07
		modified: 3Mar08
File: ICC_Code_Process_Diagrams_11.vsd		

Process Name	P8 Enforcement
Task and Definition	This process map defines the steps used to adjudicate violations/citations/emergency situations in order to ensure that the condition(s) has been corrected and fines are collected..
Actors	Inspectors, clerical staff, attorneys, (administrative) judges, landlords, contractors
Data Inputs	Inspection outcomes
Data Outputs	Fees, correction action order, correction certification, violation disposition
Systems Involved	Enforcement Module

[ID: 8.1] Preparation and Filing	
Type	Task
Documentation	A Violation or Citation notice is generated by the system, based on information collected in complaint handling (see P7). A Violation Record is created for tracking. The subject property owner or contractor is notified. Adjudication agencies are notified.

[ID: 8.2] Scheduling	
Type	Task
Documentation	The property owner or contractor, jurisdiction attorney, and inspector (if necessary) are notified of a hearing date. The hearing date is also recorded in the Violation Record.

[ID: 8.3] Adjudication	
Type	Task
Documentation	<p>A hearing is administered by and administrative judge contracted by the jurisdiction. The cited property owner or contractor, their attorney, the jurisdiction attorney, and inspector (if necessary) should all be present. The hearing will result in one of the following:</p> <ul style="list-style-type: none"> a) dismissal of the violation/citation b) assessment of a fine and/or a order to correct the condition <p>The hearing outcome will be recorded by the jurisdiction and with local government as part of the adjudication process and follow-up process at the jurisdiction. The hearing outcome is also recorded in the Violation Record.</p>

[ID: 8.4] Prepare Notification	
Type	Task
Documentation	<p>A 'Violation Notice', including all of the information specified in ER_Violation_Notice, is generated by the Enforcement software module. This notice, which summarizes the hearing outcome, is then sent to the property owner or contractor. Notification is recorded in the Violation Record.</p>

[ID: 8.5] Pay Fees	
Type	Task
Documentation	<p>The property owner or contractor must pay any fees imposed at the hearing.</p>

[ID: 8.6] Process Fee Payment	
Type	Task
Documentation	<p>Jurisdiction staff collects and processes the fees and then updates the Violation Record to show the fees as 'paid.'</p>

[ID: 8.7] Schedule Inspection or Test	
Type	Task
Documentation	<p>If rework confirmation is required by the hearing outcome, jurisdiction staff will schedule an inspection, coordinating a date with the property owner or contractor.</p>

[ID: 8.8] Inspection or Test	
Type	Task
Documentation	<p>An onsite inspection to verify rework is completed as scheduled. The property owner is notified of the results (pass or fail). If failed, information will be included about how to rework or remedy the failures.</p>

[ID: 8.9] Rework to Remedy Failures	
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Type	Task
Documentation	If the inspection is not passed, the property owner or contractor must rework or repair in accordance with guidance provided by the jurisdiction.

[ID: 8.10] Prepare and Submit Re-Inspection Request

Type	Task
Documentation	Once the rework or repairs are complete, the property owner or contractor must prepare and submit a re-inspection request, providing the assigned Violation Number, and using a re-inspection request form that includes all the data specified in ER_Inspect_Request. This can be done in person or online

[ID: 8.11] Process Request

Type	Task
Documentation	In processing the re-inspection request, jurisdiction staff re-confirm that all fees have been paid and then schedule the inspection (see 8.7)

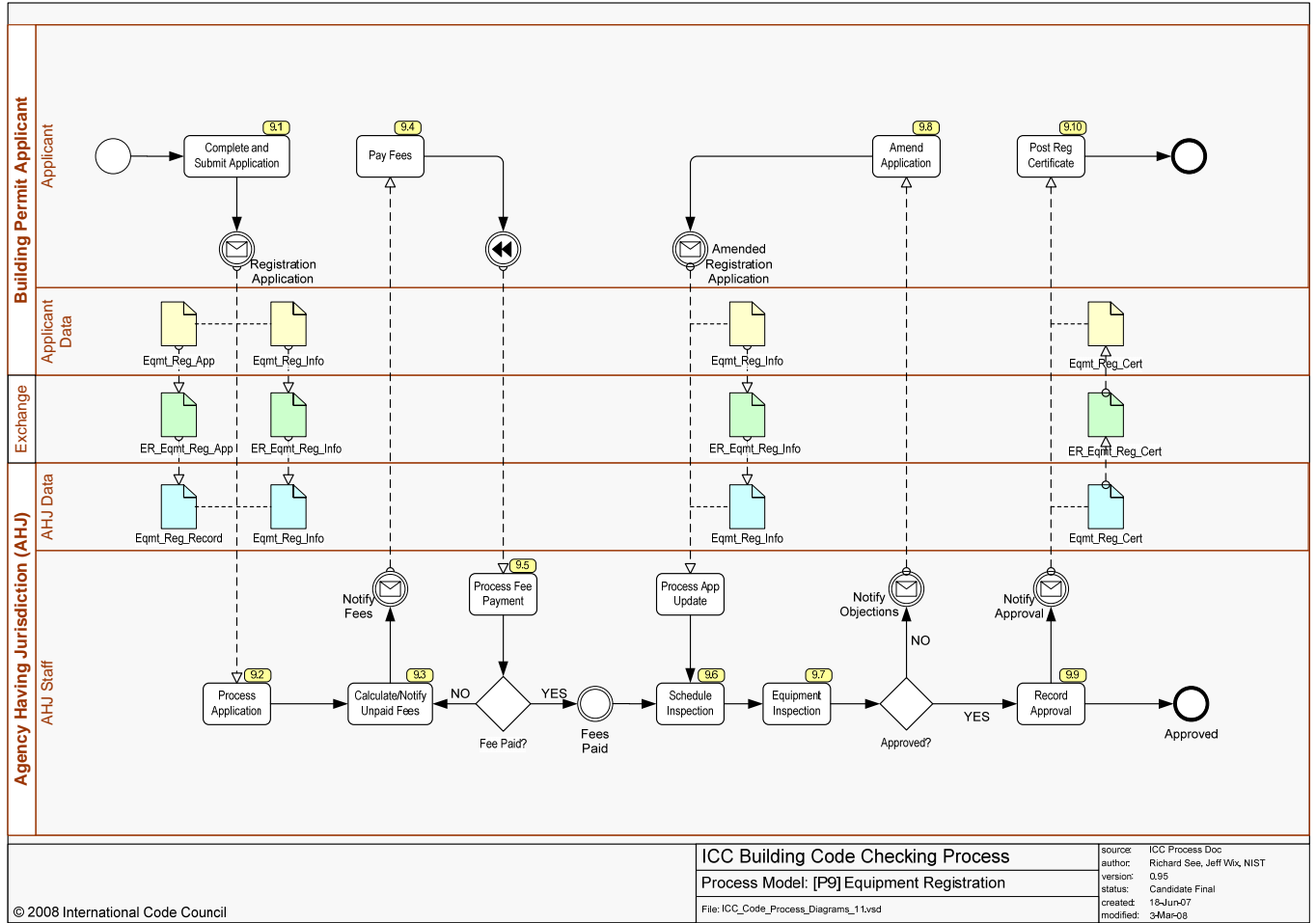
[ID: 8.12] Certify Inspection

Type	Task
Documentation	Depending on the nature of the violation and the business rules for certifying correction, the jurisdiction may: <ul style="list-style-type: none"> a) receive self-certification and notes such on in the Violation Record b) receive self-certification and schedule an audit inspection on a predetermined number of self-certifications c) schedule inspection to coincide with a correction date

[ID: 8.13] Record Resolution

Type	Task
Documentation	Once payment is made and the violation(s) corrected, the Violation Record is updated to reflect the correction.

[P9] Equipment Registration



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ICC Building Code Checking Process		source: ICC Process Doc
Process Model: [P9] Equipment Registration		author: Richard See, Jeff Wix, NIST
		version: 0.95
		status: Candidate Final
		created: 15Jun07
		modified: 3Mar08
File: ICC_Code_Process_Diagrams_11.vsd		

Process Name	P9 Equipment Registration
Task and Definition	This process map defines the steps required to attain an owner registration certificate to allow the use of certain equipment within the jurisdiction.
Actors	Construction equipment owners, government officials, intake staff, routing and scheduling staff, inspector
Data Inputs	Equipment information (owner, uses, technical specs, etc.)
Data Outputs	Equipment Registration
Systems Involved	Equipment Management Module

[ID: 9.1] Complete and Submit Application	
Type	Task
Documentation	The applicant completes an application form (paper or online) that includes all of the data specified in ER_Eqmt_Reg_App and attaches (paper or uploaded files) supporting documentation that includes all data specified by ER_Eqmt_Reg_Info.

[ID: 9.2] Process Application	
Type	Task
Documentation	Jurisdiction staff creates an Equipment Registration Record by importing (or transcribing) the ER_Eqmt_Reg_App data from the application and then importing (or transcribing) the

	ER_Eqmt_Reg_Info data from the supporting documents (scanned or received as attachments).
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[ID: 9.3] Calculate/Notify Unpaid Fees	
Type	Task
Documentation	Jurisdiction staff or the Equipment Management Module calculates the registration fee and notifies the Applicant.

[ID: 9.4] Pay Fees	
Type	Task
Documentation	The Applicant pays the registration fee.

[ID: 9.5] Process Fee Payment	
Type	Task
Documentation	Jurisdiction staff collects and processes the fee and then updates the Equipment Registration Record to show the fee as 'paid.'

[ID: 9.6] Schedule Inspection	
Type	Task
Documentation	When the registration fee status shows 'Paid', Jurisdiction staff assigns an inspector, based on the type of equipment. They also assign a date for the inspection based on the assigned inspector's schedule.

[ID: 9.7] Equipment Inspection	
Type	Task
Documentation	The assigned inspector completes a review of the Equipment Registration Info in advance, and then completes the equipment inspection as scheduled. Inspection results are documented in the Equipment Registration Record and the inspection status is set to 'approved' or 'rejected'. If rejected, jurisdiction staff will notify the Applicant and provide information about how to remedy the failure.

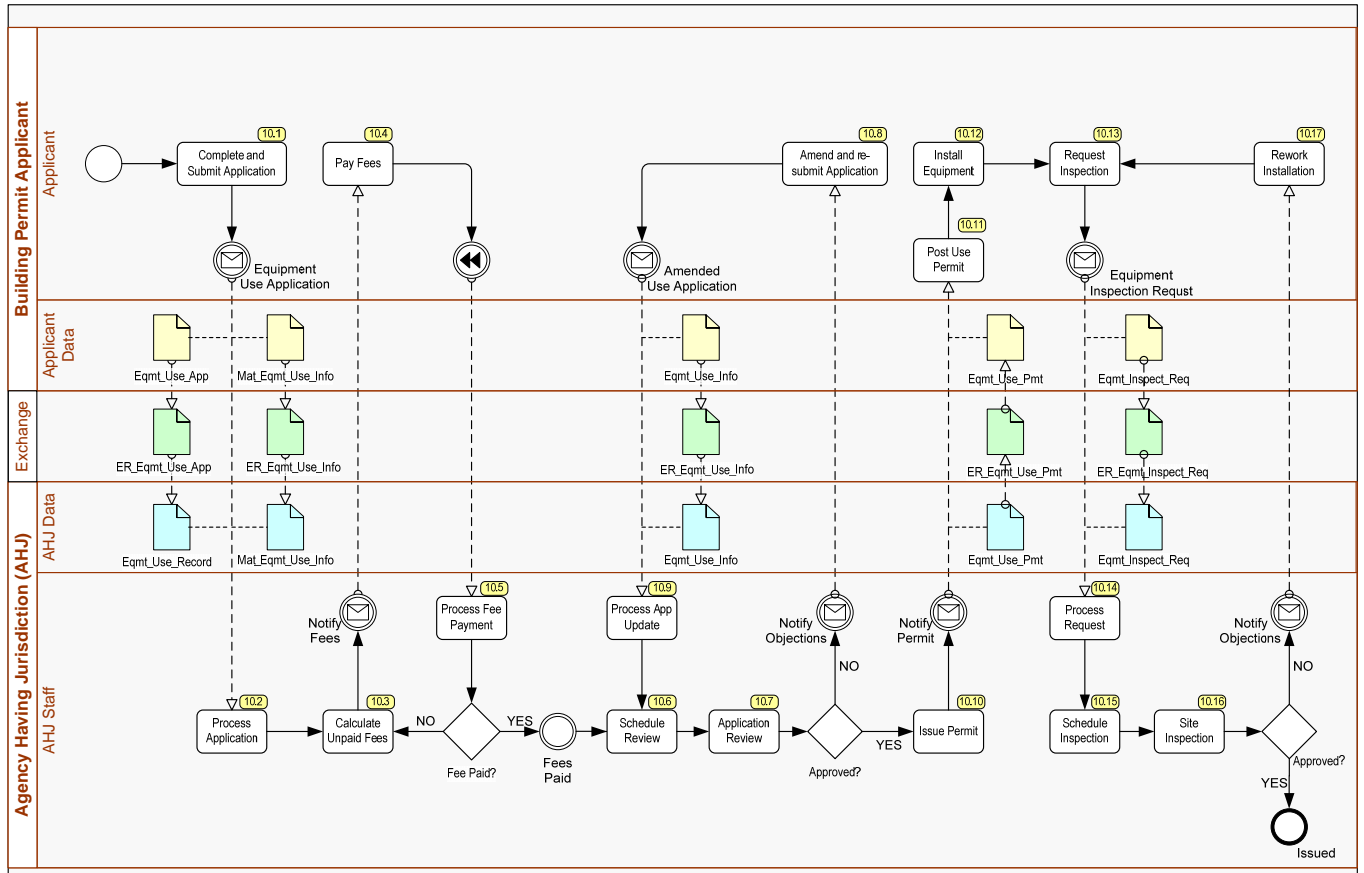
[ID: 9.8] Amend Application	
Type	Task
Documentation	If the Inspector has objections, the Applicant has the opportunity to amend their application or to submit further supporting documentation that includes the data specified in ER_Eqmt_Reg_Info. If the Applicant does not submit an amendment, the status of the Equipment Registration Record remains 'rejected'

[ID: 9.9] Record Approval	
Type	Task

Documentation	In the event the inspection is approved, the Equipment Management software module will generate an Equipment Registration Certificate that contains all of the data specified in ER_Eqmt_Reg_Cert. Jurisdiction staff will then notify the Applicant and provide the Equipment Registration Certificate (electronically or in person).
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[ID: 9.10] Post Registration Certificate	
Type	Task
Documentation	The Applicant will post the Equipment Registration Certificate on or near the equipment as required by jurisdiction instructions.

[P10] Use Permitting



© 2008 International Code Council	ICC Building Code Checking Process	source: ICC Process Doc
	Process Model: [P10] Equipment Use Permitting	author: Richard See, Jeff Wix, NIST
	File: ICC_Coda_Process_Diagrams_11.vsd	version: 0.95
		status: Candidate Final
		created: 18-Jun-07
		modified: 3-Mar-08

Process Name	P10 Use Permitting
Task and Definition	This process map defines the steps required to attain an owner registration certificate to allow the temporary use of certain equipment (e.g. construction equipment) within the jurisdiction.
Actors	Construction equipment owners, government officials, intake staff, routing and scheduling staff, inspector
Data Inputs	Equipment information (owner, location of job, duration of job, job description, technical specs, etc.)
Data Outputs	Equipment Usage Permit

Systems Involved	Equipment Management Module
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[ID: 10.1] Complete and Submit Application	
Type	Task
Documentation	The applicant completes an application form (paper or online) that includes all of the data specified in ER_Eqmt_Use_App and attaches (paper or uploaded files) supporting documentation that includes all data specified by ER_Eqmt_Use_Info.

[ID: 10.2] Process Application	
Type	Task
Documentation	Jurisdiction staff creates an Equipment Use Record by importing (or transcribing) the ER_Eqmt_Use_App data from the application and then importing (or transcribing) the ER_Eqmt_Use_Info data from the supporting documents (scanned or received as attachments).

[ID: 10.3] Calculate Unpaid Fees	
Type	Task
Documentation	Jurisdiction staff or the Equipment Management Module calculates the Equipment Use fee and notifies the Applicant.

[ID: 10.4] Pay Fees	
Type	Task
Documentation	The Applicant pays the Equipment Use fee.

[ID: 10.5] Process Fee Payment	
Type	Task
Documentation	Jurisdiction staff collects and processes the fee and then updates the Equipment Use Record to show the fee as 'paid.'

[ID: 10.6] Schedule Review	
Type	Task
Documentation	When the Use fee status shows 'Paid', Jurisdiction staff assigns an inspector to review the Equipment User application, based on the type of equipment.

[ID: 10.7] Application Review	
Type	Task
Documentation	The inspector reviews the application for safety, code, law and ordinance requirements, documents conclusions in the Equipment Use Record, and updates the status for application to 'Approved' (go to 10.10) or 'Rejected' (go to 10.8).

[ID: 10.8] Amend and Re-submit Application	
Type	Task
Documentation	If the Inspector has objections and has 'rejected' the use application, the Applicant has the opportunity to amend their application or to submit further supporting documentation that includes the data specified in ER_Eqmt_Use_Info. If the Applicant does not submit an amendment, the status of the Equipment Registration Record remains 'rejected'

[ID: 10.9] Process Application Update	
Type	Task
Documentation	Jurisdiction staff updates the Equipment Use Record by importing (or transcribing) any changes to the ER_Eqmt_Use_App data from the revised application and/or importing (or transcribing) the ER_Eqmt_Use_Info data from the updated supporting documents (scanned or received as attachments).

[ID: 10.10] Issue Permit	
Type	Task
Documentation	In the event the Use Application is approved, the Equipment Management software module will generate an Equipment User Permit that contains all of the data specified in ER_Eqmt_Use_Pmt. Jurisdiction staff will then notify the Applicant and provide the Equipment Use Permit (electronically or in person). This Use Permit is contingent upon passing a required inspection.

[ID: 10.11] Post Use Permit	
Type	Task
Documentation	The Applicant will post the Equipment Use Permit on or near the equipment as required by jurisdiction instructions.

[ID: 10.12] Install Material/Equipment	
Type	Task
Documentation	The applicant will then install the equipment at the construction site.

[ID: 10.13] Request Inspection	
Type	Task
Documentation	The applicant will next request an inspection of the installed equipment using a form (paper or electronic) the captures all of the information specified in ER_Eqmt_Inspect_Req.

[ID: 10.14] Process Inspection Request	
Type	Task
Documentation	Jurisdiction staff updates the Equipment Use Record by importing (or transcribing) the ER_Eqmt_Inspect_Req data in the request form.

[ID: 10.15] Schedule Inspection	
Type	Task
Documentation	Jurisdiction staff then assigns an inspector, based on the type of equipment. They also assign a date for the inspection based on the assigned inspector's schedule.

[ID: 10.16] Site Inspection	
Type	Task
Documentation	The assigned inspector completes a review of the Equipment Use Record in advance, and then completes the equipment inspection as scheduled. Inspection results are documented in the Equipment Use Record and the inspection status is set to 'approved' or 'rejected'. If rejected, jurisdiction staff will notify the Applicant and provide information about how to remedy the failure.

[ID: 10.17] Rework Equipment Installation	
Type	Task
Documentation	The application will rework installation of the equipment to address objections documented by the inspector and then request a re-inspection (see 10.13)