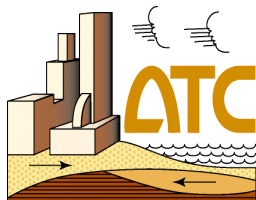


# Scope

- **Structural performance products**
- **Nonstructural performance products**
- **Risk management products**

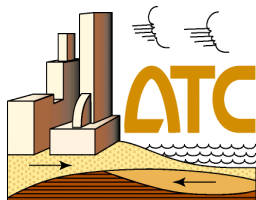


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# Risk management products Central Premise

**These products must be customized to address the individual needs of the various types of users**



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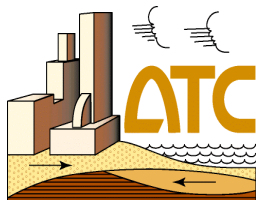


# Objectives and strategy

**Fundamental understanding of stakeholder decision-making processes**

**Performance characterization framework and options**

**Connection between the performance characterization framework and stakeholder decision-making processes**

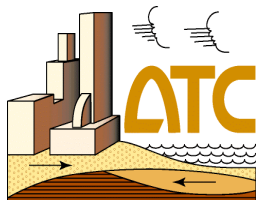


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# Stakeholders

- **Owners/managers**
- **Societal/governmental**
- **Financial**
- **Consultants/researchers**



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# Focus groups

**Owner/manager**

**Investor**

**Institutional**

**Industry**

**Societal/governmental**

**Public policy**

**Regulatory**

**Special interest/advocacy groups**

**Financial**

**Lenders**

**Insurers**

**Securities**

**Professional/research**

**Architects/Planners**

**Structural/Geotech**

**New Researchers**



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# Characterization of Performance

PERSPECTIVE	FOCUS			SCALE		FORMULATION	
	<u>Safety</u>	<u>Capital loss</u>	<u>Down time</u>	<u>Discrete</u>	<u>Continuous</u>	<u>Deterministic</u>	<u>Probabilistic</u>
<b>Investor</b>	possible	high	possible	secondary	primary		preferred
<b>Institution</b>	high	possible	high	primary	secondary		preferred
<b>Industry</b>	moderate	possible	high		primary		preferred
<b>Public policy</b>	high	moderate	moderate	primary	secondary	preferred	secondary
<b>Regulatory</b>	high	possible	possible	primary			preferred
<b>Advocacy</b>	high		possible	primary		preferred	
<b>Lender</b>		high			primary		preferred
<b>Insurer</b>		high	possible		primary	secondary	preferred
<b>Securities</b>		possible	possible		primary	preferred	

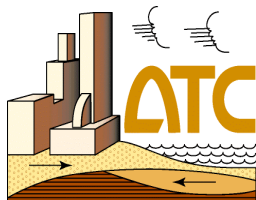


## ATC-58 Development of Performance-Based Seismic Design Guidelines



# Stakeholder Guides

<u>Task No.</u>	<u>Task</u>
6.1	Define content and format of Stakeholders' Guide
6.2	Present and explain modeling techniques
6.3	Describe the design and construction process
6.4	Develop examples for the guide
6.5	Develop a plan to maintain or monitor the designed performance objective
6.6	Publish the stakeholders' guide
6.7	Develop a means for future revisions



## ATC-58 Development of Performance-Based Seismic Design Guidelines



# Coordination issues

(risk management, structural, nonstructural)

- **Translating engineering data to consequences (DM to DV)**
- **Assembling consequences into a complete picture**
- **Design implications of broader stakeholder goals**



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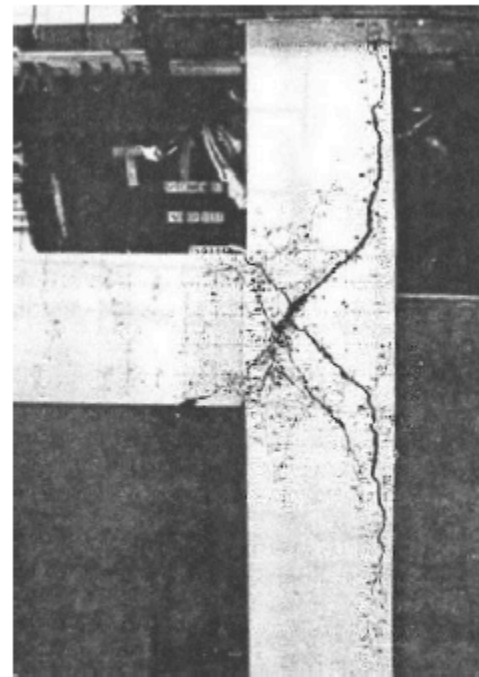


# Costs of repairs

(Pagni and Lowes)

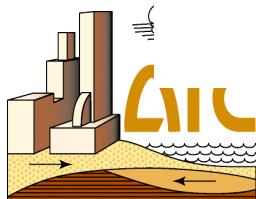


(a) Distribution of cracking and spalling



(b) Beam-Column Joint Test Specimen

Figure 14: Extended Damage State—Cracks initiating in the joint extend into the column and/or beam in the vicinity of column and/or beam longitudinal steel. Experimental data indicate loss of bond strength within the joint (Hakuto et al. 1997).



**Performance-Based Seismic  
Design Guidelines**

