

Table 1- Comparison of International Post-earthquake Building Evaluation Programs

Post-earthquake Evaluation Program	<u>EU-STEP</u> European Union's Strategies and Tools for Earthquake Post-earthquake Assessments	<u>Italy – AeDES</u> Post-Earthquake Damage and Safety Assessment and Short Term Counter-measures	<u>Japan-T3.2.2-1</u> Quick Inspection Sheet for Reinforced Concrete Buildings and Steel Encased RC Buildings	<u>Greece-EPPO</u> First Degree Rapid Usability Evaluation Program	<u>US CA-SAP-ATC 20</u> Safety Assessment Program (SAP) California Emergency Management Agency	<u>SEAOC-EPEP</u> Structural Engineers Association of California Earthquake Performance Evaluation Program
Attributes						
Primary/Secondary Purposes:						
1. Safety Assessments	Primary	Primary	Primary	Primary	Primary	
2. Aggregate Damage Estimations	Secondary	Secondary	Secondary	Secondary		
3. Performance Calibrations		Not yet done	Yes	Not Yet		Primary
Primary Evaluation Categories	<ul style="list-style-type: none"> • Usable (Green) • Restricted Use (Yellow) • Unusable (Red) 	<ul style="list-style-type: none"> • Usable • Unusable (totally or partially, but Usable after short-term countermeasures) • Partially Unusable • Temporarily Unusable • Unusable • Unusable due to external risk 	<ul style="list-style-type: none"> • Inspected (Green) • Limited Entry (Yellow) • Unsafe (Red) 	<ul style="list-style-type: none"> • Usable (Green) • Temporarily Unusable (Yellow) • Unusable/ Dangerous (Red) 	<ul style="list-style-type: none"> • Inspected – Lawful Occupancy Permitted (Green) • Restricted Use - Two Options (Yellow) • Unsafe – Do not enter or occupy (This placard is not a demolition order.) (Red) 	<ul style="list-style-type: none"> • None • Insignificant • Minor • Moderate • Heavy Damage
Placards (Yes/No)	Not addressed yet	No	Yes	Yes	Yes	No
Length of Form	2 Pages	3 Pages	1 Page	1 Page	1 Page	4 pages
Time per Building Minimum/Average/ Maximum Minutes	20-30 min	20-30 min	20-30 min	15–25 min	10/20-25 min/60	30/60 min/240
Qualifications of Assessors or Evaluators	Not addressed	Engineers, Architects, Surveyors	Trained and Registered 1 st or 2 nd Class Authorized Architect	Civil Engineers (w/4 & 5 years) Architects, Surveyors	Inspectors Architects or Civil/Struct Engineers	Structural Engineers, Minimum 1 per team
Number of Trained Assessors or Evaluators	25	About 2000	100,819 (as of March 2008)	N/A	Total: 6280 Engineers, SE: SEAOC: 756 DSA: 168 Civil Engineers: ASCE: 634 DWR: 31 Caltrans: 138 Architects: 398 Inspectors: 4155 (As of May 2009)	Total: 16 Struct Engrs: 9 Civil Engrs: 6 Engrs in Training: 1

<u>Post-earthquake Evaluation Program Attribute</u>	<u>EU-STEP</u>	<u>Italy – AeDES</u>	<u>Japan-T3.2.2-1</u>	<u>Greece-EPPO</u>	<u>US CA-SAP-ATC 20</u>	<u>SEAOC-EPEP</u>
Credentials issued prior to earthquake?	No	No	Yes	?	Yes	Yes
Number Instructors	?	?	Around 500	?	150	4
From a population	491 million	58 million	128 million	11 million	38 million	38 million
First time used	2008 Bovec exercise	1997 Umbria-Marche Earthquake	1985 Mexico Earthquake	1978 Thessaloniki Earthquake	1983 Coalinga	2008 Chino Hills
Forms Last Updated	2008	2000	1998	1996	2006	April 2009
Supplemental Forms	No	No	<ul style="list-style-type: none"> • Steel Bldgs • Wood Bldgs • Building Land • Damage Classification Forms (for each structural system, 2 pages) 	No	<ul style="list-style-type: none"> • Detailed 2 page • Airport,Bridge • Geotechnical • Pipeline, Pump • Reservoir • Road/Highway • Water/Sewer Plants • Flood (2 forms, ATC 45) 	<ul style="list-style-type: none"> • Unreinforced Masonry • Concrete Frame with URM Walls • Tiltup
Focus on Vulnerabilities of Specific Building Types	Unreinforced masonry/Mixed RC/Steel	Unreinforced masonry and Reinforced Concrete Frame/Steel	Reinforced Concrete (RC) and Steel Encased RC (for EU's Exercise)	All	All	All
Adjacency Risk Considered on Form	Yes	Yes	Yes	No	Yes	Yes
Extent/Variation of Damage Documented?	No	Yes By thirds of floor area	Yes By <10%, 10 to 20%, >20%	No	No	Yes, but generalized
Correlations with Recorded Motions Direct/Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	Direct
Assessor Registration Form	?	Yes	Yes	?	Yes	No
Assessor Regional Deployment Allocation Protocols	?	Yes	Yes	Yes	Yes	Yes
Assessor Regional Deployment Tracking Form	?	?	?	?	Yes	No
Liability Protection for Evaluators	No	No	Yes	?	Yes	No
Evaluator's Injury Insurance Provided	Yes	Yes	Yes	?	Yes	No