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Abstract: The Interagency Committee on Seismic Safety in Construction (ICSSC) hosted an Issues Workshop in Denver, Colorado on September 16-17, 1992, to develop consensus resolution of issues affecting the drafting of seismic evaluation and rehabilitation standards for Federally owned and leased buildings. The development of the standards was mandated by Congress in Public Law 1Ø1-614. All potentially affected Federal agencies were invited to participate in the workshop. The report presents the proceedings of the workshop.

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Development of Seismic Evaluation and Rehabilitation Standards for Federally Owned and Leased Buildings

September 16-17, 1992, Denver, Colorado

United States Department of Commerce
Technology Administration
National Institute of Standards and Technology

NIST GCR 92-617

Proceedings: ICSSC Issues Workshop

Development of Seismic Evaluation and Rehabilitation Standards for Federally Owned and Leased Buildings

September 16-17, 1992, Denver, Colorado

H.J. Degenkolb Associates, Engineers
Rutherford & Chekene, Consulting Engineers

Sponsored by:
Federal Emergency Management Agency
Washington, DC 20472

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Building and Fire Research Laboratory
National Institute of Standards and Technology
Gaithersburg, MD 20899

U.S. Department of Commerce
Barbara Hackman Franklin, *Secretary*
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Preface

Section 8(a)(1) of Public Law 101-614 (the NEHRP Reauthorization Act) directs the President to adopt "standards for assessing and enhancing the seismic safety of existing buildings constructed for or leased by the Federal Government" by December 1, 1994. The Act assigns responsibility for developing the standards to the Interagency Committee on Seismic Safety in Construction (ICSSC), a committee established under the National Earthquake Hazard Reduction Program (NEHRP) to assist Federal agencies in developing and implementing earthquake hazard reduction measures in their programs.

ICSSC Subcommittee 1, Standards for New and Existing Buildings, is overseeing the effort to develop the required standards. Private sector contractors, H.J. Degenkolb Associates, Engineers, and Rutherford & Chekene, Consulting Engineers, are developing a draft standard for consideration by the Subcommittee. NIST, which provides the Technical Secretariat to the ICSSC, is managing the contract.

One of the first tasks in development of the standards was the identification of issues which required resolution. The example of ATC-28 [1] was followed. That document, which was reviewed and approved through the ASCE consensus process, attempts to identify social, political, economic, and technical issues that should be considered during development of rehabilitation guidelines for existing buildings, and recommends appropriate resolution of those issues. The ATC-28 issues and recommended resolutions were reviewed for their applicability to the development of standards for Federal buildings. ATC-28 concluded that multiple issues needed to be resolved by the implementing state or local jurisdiction. For the required standard for Federal buildings, these issues needed resolution by the affected Federal agencies. Additional issues were identified by the contractors and by ICSSC Subcommittee 1 members.

A workshop was held on September 16 and 17, 1992, in Denver, Colorado, to develop consensus resolution of the identified issues. All potentially affected agencies were invited to participate. Although balloting at the workshop was defined to be one agency-one vote, some departments and agencies had multiple representation, including their contractors. A two-thirds majority of the agencies present was needed for an item to pass.

The results of the Issues Workshop will guide the contractor's development of a draft standard. After review, possible revision, and approval by ICSSC Subcommittee 1, the draft standard will be forwarded to the full ICSSC for balloting and consensus approval. The ICSSC is planning to draft and ballot an accompanying Executive Order that will require implementation of the standards.

[1] *Seismic Rehabilitation of Buildings Phase I: Issues Identification and Resolution*, (ATC-28), FEMA Report Number to be assigned, Federal Emergency Management Agency, Washington, DC 20472, publication pending.

Abstract

The Interagency Committee on Seismic Safety in Construction (ICSSC) hosted an Issues Workshop in Denver, Colorado on September 16-17, 1992, to develop consensus resolution of issues affecting the drafting of seismic evaluation and rehabilitation standards for Federally owned and leased buildings. The development of the standards was mandated by Congress in Public Law 101-614. All potentially affected Federal agencies were invited to participate in the workshop. Based on the outcome of the workshop, it is anticipated that the standard (referred to herein as the Guidelines) will have the following features. The overall goal of the program described in the Guidelines will be to reach seismic life-safety in all Federally owned and leased buildings in 35 years. Guidance for achieving non-mandatory higher performance goals will be included. The program will include screening, evaluation, prioritization and additional triggers, and strengthening. Existing voluntary technical standards will be incorporated by reference to the greatest degree possible. Leased areas greater than 50% of a building or greater than 10,000 square feet in area will be included in the overall program, but with flexibility to account for areas where complying space is unavailable. Incremental strengthening that improves the performance of the building will be allowed, but program milestones and timelines must still be met. The Guidelines will be a required minimum standard that will be updated by the ICSSC every 3-5 years.

PROCEEDINGS

ICSSC ISSUES WORKSHOP

September 16-17, 1992

Denver, Colorado

As part of the scope of work to write standards for seismic evaluation and strengthening of federal buildings, the contractors were asked to review the issues in ATC-28 for applicability to the federal effort. ATC-28, ***Development of Recommended Guidelines for Seismic Strengthening of Existing Buildings***, identifies and discusses all the issues that must be considered, resolved and included in the FEMA Guidelines for the seismic strengthening of existing buildings As outlined in the contractors Task 1 Report, a number of ATC-28 issues were identified as applicable to the strengthening of federal buildings but having issue resolutions not applicable to federal buildings. This workshop will discuss and select alternatives to address these unresolved issues.

Prior to the start of the first session, several hand-outs were made available to the participants. The handouts included written comments from Donald R. Trilling (DOT) and Donald W. Evick (USPS) as well as the ***NEHRP Handbook for the Seismic Evaluation of Existing Buildings*** (FEMA-178), the ***NEHRP Handbook for Seismic Rehabilitation of Existing Buildings*** (FEMA-172), and the final BSSC report of the consensus version of ATC-28, ***Seismic Rehabilitation of Buildings Phase I: Issues Identification and Resolution.***

List of participants:

Charles Gutberlet, Army
Steven C. Sweeney, Army
Dave Williams, Army
H.S. Lew, Commerce
Diana Todd, Commerce
Gerald Myers, Energy (DOE)
Thomas A. Nelson, Energy (DOE)
Don R. Denton, Energy (DOE)
George O. Thomas, Energy (DOE)
Ann Bieniawski, Energy (DOE)
Lance Swanhorst, EPA (Day 2 only)
Michael Giller, Interior (Day 1 only)
Daniel Kawamoto, Interior (Day 1 only)
Paul H. Rafalski, Interior
Terry Wong, Interior
Thomas W. Kearns, Bureau of Prisons (BOP)
Larry Hultengren, State (FBO)
Harvey H. Hamby, TVA
Samuel A. Shipman, TVA
Kendal R. Lennon, TVA
Robert W. Jacks, TVA
G.S. Gola, Transportation (DOT)

Ugo Morelli, FEMA
Bruce Hall, GSA
Kenneth A. Bircher, HHS
John P. Rogoz, HHS
Kenneth R. Rueff, Interior
Charles E. Anderson, Interior
Krishna K. Banga, VA
Chris Poland, Degenkolb
Bill Holmes, Rutherford & Chekene
Jeff Soulages, Degenkolb
Jon-Michael Johnson, Rutherford & Chekene

Introductory remarks - *H.S. Lew:*

The purpose of this workshop is to review and discuss issues not yet resolved which are to be included in the Guidelines for the Evaluation and Strengthening of Existing Federally Owned and Leased Buildings (based upon Public Law 101-614). Interaction with the private sector is accomplished by using private contractors to do the work, using a private panel of experts to review the project, and by allowing the private sector organizations (such as ASCE) to comment on the Guidelines. These Guidelines will include both administrative issues and technical issues. Tasks 1, 2 & 3 have been already completed at this time. The draft is to be completed by March 1993 and the final draft is to be completed by December 1993. An accompanying Executive Order to be written by the ICSSC will insure that the Guidelines will be implemented. A FEMA cost study is to be completed by March 1994.

Mode of operation - *Diana Todd:*

Each issue will be introduced and briefly reviewed. Then, any prepared comments will be read and the results of the straw polls will be given. Next, the floor will be open to general discussion. Finally, the results of the discussion will be summarized, a hand vote will be taken, and written ballots collected at the end of each session break. Issues will be decided based upon ballots with each agency casting a single vote. A two-thirds majority of those present is required for an alternative to be chosen.

All issues that did not receive a two-thirds majority vote or issues that had several written comments will be discussed again on the second day of the meeting. All written ballot comments will be collected, reproduced, and distributed along with the ballot results to aid in the consensus review. Issues that still could not be resolved will be given to the ICSSC to discuss at a later meeting.

Issues already resolved - *Chris Poland:*

The issues presented in ATC-28 and reviewed in the Task 1 Report can be divided into two categories: issues dealing with the writing and development process of the Guidelines, and issues dealing with the final scope and contents of the Guidelines. Generally, this group (the ICSSC) will be resolving issues about the scope and contents of the Guidelines for Federal Buildings. A number of key issues, however, have already been resolved by BSSC that have been deemed applicable to the Federal effort. These include:

2. Issues of Scope: Provisions for the repair of damaged and deteriorated buildings (particularly those damaged by earthquakes) will not be included in the Guidelines. Provisions covering the use of seismic isolation or energy dissipation systems will be included in the Guidelines.

3. Implementation and Format Issues: The Guidelines will be aimed at the technical audience responsible for developing and using building codes and Guidelines.

4. Issues of Coordination with Other Efforts: The Guidelines will not included a detailed evaluation methodology but will reference current evaluation methods such as ATC-22 and the NEHRP Handbook. Provisions for other non-seismic hazards such as wind will not be included in the Guidelines.

5. Legal and Political Issues: The Guidelines for existing buildings will be different and may be lower than those for new buildings. The Guidelines should not try to limit the possible range of engineering solutions based on fear of legal challenges.

8. Historic Building Issues: Historic buildings should not be excluded from the Guidelines. The questions of what performance goal is applicable to historic structures and what should be done to preserve the historical fabric will be dealt with later today.

10. Seismicity and Mapping Issues: The Guidelines will use the same maps as currently used in the NEHRP provisions for new buildings. Commentary will be provided on the life-safety concerns of soil instability and other geologic hazards.

11. Issues of Engineering Philosophy: Life-safety will be defined in the Guidelines as the intent to prevent collapse and falling hazards in the design event which must be explicitly defined. This may involve different provisions for different seismic zones to account for the differences in characteristics of larger events in some parts of the country.

Issues to be resolved - *Bill Holmes & Chris Poland*:

Listed below for each issue are :

* issue name and full issue statement
* selected alternative after the final balloting
* brief summary of the discussion for both days of the meeting
* written ballot comments from both days of the meeting.

Attached are:

A. Issues for Discussion as amended by the workshop participants
B. Tally of votes from Day 1 of meeting
C. Tally of votes from Day 2 of meeting

ISSUE 1.1 - Long-Term Goals

Issue Statement: What are the realistic long term goals implied by "assessing and enhancing the seismic safety of existing Federal Buildings?"

Selected Alternative: 3. The Guidelines should contain standards of application that will reflect a goal to have all occupied federal buildings, in all zones, meet seismic life-safety standards at a minimum. It is assumed that a refined initial screening process would be used which would eliminate from further consideration most buildings in low seismic zones.

Discussion: Most agreed that life-safety should be the minimum requirement with more stringent criteria to be determined by each individual agency. It would be the agency's responsibility to show that their mission-essential requirements exceeded the life-safety requirements of the Guidelines. USPS thought the first priority should be to evaluate and strengthen buildings in high seismic zones and with high risk structural systems. Ugo Morelli stressed that in order to fulfill the intent of the Executive Order, all seismic zones must be considered, not just the high and moderate zones. What constituted "high and moderate" zones was debated as there are several definitions. Alternatives were added to include "mission" as a long-term goal to options 3, 4, and 10.

After much debate, alternative 3 was agreed upon. Although the goal is to look at all buildings, each agency can write its own schedule of how it will screen its own inventory. It is assumed that a refined screening process would be used to direct resources to the buildings in greatest need.

Comments:

BOP (4): Ideally "3" may be the best option, but since a timetable/funding source is uncertain, number 4 covers the highest two risk buildings and allows for agencies to determine what to be done for "low risk" buildings.

FBO (4): The issue is both assessment and enhancement/mitigation. Number 3 is OK for assessment goal within agency priorities. Number 4 is OK for enhancement.

GSA (4a): Life-safety and functions of the agency can be resumed or relocated in a timely manner consistent with the need (mission) for services after an earthquake. Life-safety: moderate and high for "enhancement"; all zones for assessment.

TVA (3): Reword Number 3 to include elements of number 10.

ISSUE 1.2 - Timelines

Issue Statement: In what length of time should the seismic hazard mitigation goal of the Federal Guidelines be reached?

Selected Alternative: 2a. Mitigation goals should be completed in 35 years with intermediate milestones as per 5.

Discussion: The timeline must be consistent with the expected recurrence interval of an earthquake. The evaluation and strengthening should be prioritized with intermediate goals in order to cause the agencies to take action early. One Army representative stressed that it would be very difficult, if not impossible, to meet a timeline of 50 years since they have over 6000 buildings to consider. The longer timeline will allow some attrition and seismic retrofit coupled with architectural renovation. Although most agreed that intermediate goals should always be included, the final time period was split between 25 and 50 years.

A compromise of 35 years was added as alternative 2a and achieved consensus. The intermediate goals will be left up to the agency to schedule, but the overall timeline must be met regardless of the intermediate scheduling.

Comments:

BOP(5): One combination would be:
10 years - high risk
25 years - moderate risk
50 years - low risk
The timetable could be adjusted based upon what risk types are included and how stringent the standards will be.

FBO(2): Better words can be used. Within agency program priorities, and item 2 but critically deficient buildings dealt with ASAP.

GSA (2): Only if feasible due to available funds.

HHS (3): The general discussion seemed to prefer 50 years as a program goal, but this "feels" too long to keep people and/or facilities at risk.

ISSUE 1.3 - Right-To-Know

Issue Statement: What information concerning the seismic safety of existing federal buildings do the occupants (or the public) have the "right-to-know?"

Selected Alternative: 7. This issue should not be addressed in the Guidelines.

Discussion: Some discussion was made regarding the appropriate time during the evaluation and strengthening phases that the public should be made aware of the condition of the building and how the information should be made available. The Freedom-of-Information Act allows anyone to get report information. FBO commented that reports should be released to the public only after they had been reviewed and approved by the agency. A new alternative 4a was added. Diana Todd supported alternative 4 as a minimum. If an agency wanta to do 1, 2 or 3 later, they may do so. One TVA representative said that this whole issue is a legal matter beyond the scope of the Guidelines.

After much debate, it was decided that the Guidelines should not address this issue, but that the agencies should be aware that it is a very important concern.

Comments:

BOP (abstained): Regardless of the option chosen, a major concern is eliminating potential liability. If funds are secured prior to evaluation, the eagerness to evaluate may be substantially diminished.

DOT (2): Public is using the facility, therefore public has a right-to-know.

FBO (4a): Needs more words defining evaluations, reports, agency, acceptance, (illegible). Four not acceptable in current words.

GSA (4a): Only after agency prospectus is approved, and concurrence/ approval of seismic study.

HHS (4): Actually, maybe number 6 is the best option, to protect the owner once an evaluation is completed. Also, the need for confidentiality may be increased or different for higher risk buildings.

ISSUE 2.2 - Determination of Applicability

Issue Statement: Should the Guidelines contain a program for mitigation or "triggers" that would specify whether a given building requires strengthening?

Selected Alternatives:

2b. Screening should be accomplished consistent with the overall goal of mitigation (See Issue 1.1).

3a. All buildings failing the screening criteria should be evaluated as soon as possible.

4a. All buildings failing the evaluation criteria should be strengthened (or otherwise disposed of) in accordance with predetermined priority criteria and timelines.

Discussion: There was full consensus that the program needed to be mandatory and include triggers. The question was asked, "What is screening?" The answer, screening involves eliminating any building from strengthening requirements based on a valid reason. An alternative 4d was added by DOT to strengthen buildings based on the highest available risk reduction per dollar spent.

Comments:

FBO (4a): 4b could be combined with 4a, if say "some buildings failing . . ."

ISSUE 1.4 - Guidelines vs. Requirements

Issue Statement: Should the Federal Guidelines document be advisory, a recommended guideline, or mandatory?

Selected Alternative:

1.4a Administrative: 3. All agencies must implement the program identified in the Guidelines at a minimum.

1.4b Technical: 2. Engineers performing seismic evaluation or strengthening on federal buildings must use the Guidelines, or show that methods used are equivalent or more conservative than the Guidelines.

Discussion: Most of the discussion centered on the technical portion of the issue. Someone asked why the UBC cannot be used as a standard for existing buildings. The answer lies in the fact that the UBC applies to new buildings and it does not cover or permit many situations that are present in existing buildings. One DOE representative said the Guidelines should address the issue of when a more detailed site specific response results in a lower force level than that required by the minimum standard. The minimum standard should rarely pose a problem for those agencies that have a more rigid criteria. The issue of more advanced analysis is addressed later in Issue 12.12.

Comments:

ADMINISTRATIVE

FBO (3): Needs more words about agency program and flexibility from this document in its usage of "program".

TECHNICAL

FBO (2): Words need to be added about ATC, FEMA documents, not all encompassing, not all inclusive, not basis for regulation. See FEMA preface for #178.

DOE (2): Note not to preclude more rigorous analysis, including hazard and structural analysis.

ISSUE 1.5 - Leased Buildings

Issue Statement: How can the federal government approach seismic hazard mitigation in leased buildings?

Selected Alternative: 5. Make no new leases or lease renewals in buildings that do not comply with seismic evaluation standards for leased spaces greater than 10,000 sf or which comprise more than 50% of the building. If no seismically conforming space is available, otherwise acceptable space with the best seismic resistance can be taken.

Existing leases can be held without action until the lease expires unless the agency determines there are critical deficiencies.

Leased spaces and buildings within the program are not exempt from the overall mitigation timeline, regardless of lease length.

Discussion: The same minimum standard must be required for leased buildings as required for owned buildings. GSA commented that because of the many different lease situations, a great deal of flexibility is necessary. Also, leases of small square footage (such as less than 10,000 square feet) should be exempt. FBO commented that some countries won't allow the U.S. to own land or have long-term leases and that the best available building is already being utilized. Since none of the alternatives given were satisfactory, a group of those agencies most concerned with leased buildings (GSA and FBO) met with Bill Holmes and Chris Poland to draft a new alternative. The review of Senate Report 101-446 for applicability to leased buildings was included at this meeting.

The new alternative which was drafted by the special group (alternative 5) was acceptable to the group after slight changes in the wording.

Comments:

> DOE (5): Perhaps a sliding scale of user percentage, starting at 50%, 45%, 40%, etc. Does public disclosure apply to leased buildings? All space regardless of user percentage should be subject to initial "screening" or "evaluation", the same as all buildings.
>
> BOP (4): The owner may be encouraged to strengthen the building because his/her property may become less attractive to non-federal clients if strengthening does not occur. This approach also limits an agency's liability. One question is who would evaluate the building? The period of time could also be looked at for adjustment. As was mentioned, the best approach may be to tie this into the timetable for Federally owned buildings. This is covered by number 5.

TVA (5): Instead of "critical deficiencies", use "life-safety". Delete "based on their mission" in paragraph number 2.

HHS (1): There should be one standard for all Federal space, whether leased or owned. Allowing a lower standard for leased spaces leads to "second class space", and a higher risk for housed employees.

GSA (5): Expect editorial changes from real-estate specialist. Not sure terminology is the best.

ISSUE 11.2 - Seismic Performance Goals

Issue Statement: What seismic performance goals should be covered by the Federal Guidelines?

Selected Alternative: 3a. An advisory matrix of minimum performance goals vs. building type/use will be included in the Guidelines which could be used by each agency to establish performance goals for all of their buildings. Evaluation and strengthening standards for each performance goal would be included. A life-safety goal would be specified as minimum for all buildings.

Discussion: A new alternative was added, 3a, to make life-safety a minimum but to include a matrix of higher performance goals for guidance. The group was split between 2 and 3a.

Of major concern was the impression that an advisory matrix would be viewed as a set of "prudent" requirements that agencies would be expected to follow.

After agreeing that the Guidelines must say that the advisory matrix is clearly "advisory," alternative 3a was selected.

Comments:

HHS (3a): The matrix definitions could also be guides (this would incorporate 4).

ISSUE 11.3 - Incremental Strengthening

Issue Statement: Should the Guideline allow incremental strengthening and provide a systematic method for the definition of appropriate stepped strengthening levels?

Selected Alternative: 2a. It should be specified that incremental strengthening is acceptable only if it can be shown that no other portion or element in the building will be made worse. The overall timelines and program milestones would not be changed.

Discussion: Much of the discussion focused on the difference between the alternatives. It was suggested that the Guidelines should require that any incremental strengthening, if allowed, could not reduce the seismic performance of the building. Alternative 2a was added to this effect, and both 2 & 4 were modified.

After some clarification about the difference between this issue and the voluntary strengthening issue, 12.4, the wording was changed so that the two issues matched. Alternative 2a was finally selected to allow incremental strengthening only if it would not reduce the seismic performance of the building.

Comments:

BOP (2): This option provides the greatest latitude. If a building is not to be used at the end of the timetable, this allows strengthening which helps during the remaining life without all work needing to be phased prior to the end of the buildings life.

DOE (2): Must improve seismic resistance and be within total mitigation timeline.

HHS (4): This assume that voluntary strengthening (per the note in 11.4) between or within phases is also allowed. For example, you could do part of phase 2 in phase 1, as long as the rest of phase 2 was still completed.

FOB (2): Even though it splits responsibility (illegible) for different engineers, and in most cases infers one can be half pregnant! voted OK to allow the option even though generally not workable in government!

ISSUE 11.4 - Voluntary Strengthening

Issue Statement: If strengthening is not indicated to be immediately necessary for a building by the Guidelines, is voluntary strengthening to a standard below the minimum acceptable?

Selected Alternative: 2. It should be specified in the Guidelines that voluntary strengthening is acceptable only if it can be shown that no other portion or element in the building will be made worse.

Discussion: USPS placed strong emphasis on the need to review the seismic resistance of the building after each phase of the work. Most agreed on alternative 2 with little discussion.

Comments:

BOP (2): This assures no detrimental effects resulting from voluntary strengthening, but the minimum standards must still eventually be met.

GSA (2): "If not worse" - clarify per UBC code change.

ISSUE 8.2a - Standards for Historic Buildings

Issue Statement: What seismic performance goal should be specified for Historic Buildings?

Selected Alternatives:

8.2a Performance Goals: 2. Historic buildings, in general, should meet the same minimum life-safety goals as other buildings. However, considerable flexibility should be allowed to preserve essential historic features; such considerations in aggregate, however, may result in poorer performance that other buildings.

8.2b Protection of Historic Fabric: 2 & 3. Establishment of performance goals (see 8.2a) and reference to existing publications such as The Secretary of the Interior's "Standards for Historic Preservation Projects" will adequately protect fabric which is meant to represent the current procedures. A national group should be identified or established to act as a review board. All projects incorporating seismic strengthening of historic federal buildings would be reviewed and approved by this group which is meant to represent the current procedures.

Discussion: It was generally agreed that the performance goal for historic buildings should meet the same minimum life-safety goals as other buildings. Most of the discussion focused on the issue of protecting the historic fabric. One Interior representative said that groups already exist which review any project related to historic buildings (State & National Historic Preservation Societies). Currently, each agency must comply with existing legislation. Bill Holmes pointed out that alternative 2 allows an agency to have a review panel that is either internal or external. GSA commented that any projects they undertake must be approved by a national board. Generally, the idea of keeping with the status quo was approved by the group. Many thought that a document on preserving the historic fabric of strengthened historic buildings should be pursued by the ICSSC. It was agreed that alternatives 2 and 3 would be considered as an additional alternative.

Comments:

PERFORMANCE GOALS

BOP (1): Provides the latitude to the agency with life-safety as a minimum. The level of safety will be the same for historic and non-historic buildings. A problem may occur with other options if a remediation plan is in effect before a building becomes historic, then if it does become historic, the plan may have to change.

HHS (2): In a perfect fiscal world, with adequate funding, number 3 would be nice to preserve some building in their entirety.

PROTECTION OF HISTORICAL FABRIC

HHS (2+3): Number 4 should be aggressively pursued, perhaps with a formal recommendation from ICSSC.

Int. (2+3): Develop a new pamphlet covering the issue of protecting the historic fabric.

FBO (1): Stick with ATC 28 recommendation. Fail to see the need to get into status quo unless more research as to what it is. Nothing driving ICSSC to open this up except for general understanding.

ISSUE 12.10 - Adjacency Conditions

Issue Statement: How should adjacency conditions such as pounding or common walls be taken into account?

Selected Alternatives:

12.10a Pounding: 4. The owners of potentially interacting structures would be notified prior to any strengthening project. They would be invited to review plans for the federal building.

12.10b Common Walls: 4. The owners of potentially interacting structures would be notified prior to any strengthening project. They would be invited to review plans for the federal building.

12.10c Falling Buildings: 2. Risks from adjacent buildings should be included in evaluations. Sclutions should be developed on a case by case basis.

Discussion: Concern was expressed about adjacent non-federal building being a potential hazard to the federal building. In response, issue 12.10c was added. It was suggested that the legal aspects may control this issue. TVA added that agencies cannot obligate federal funds.

Comments:

POUNDING

> BOP (1): It is hard to consider anything beyond the status quo without a legal opinion. Number 2 is not workable, number 3 is a financial burden, number 4 does not necessarily eliminate liability and if the owner opposes and tries to delay improvement, both buildings are still at risk. A definitive legal opinion is needed. Would the work being done in accordance with code affect potential liability?

COMMON WALLS

> BOP (1): See comment on 12.10a.

FALLING BUILDINGS

> BOP (2): A legal review would be very beneficial to determine liability. Option 2 should necessitate life-safety as a minimum and allow for a choice of action by the agency.

HHS (2): Should there also be an alert for future adjacent buildings which aren't built to Federal standards and may pose similar damage.

DOE (2): Make sure the word "shall" replaces "should" in considering risks from adjacent buildings in evaluations.

ISSUE 9.1 - Innovative Risk Reduction Methods
ISSUE 12.12 - Alternate Analysis Methods

Issue Statement: How can innovative risk reduction or analysis methods that are not covered in the Guidelines be accommodated without undue delays?

Selected Alternative: 2. The Guidelines should recommend that project specific outside, expert peer review panels be created when new technology is proposed.

Discussion: It was generally agreed tht special precautions were necessary. Agencies generally do not have the in-house expertise to evaluate new techniques. In addiiton, most agencies do not want to experiment with new, untested techniques. Ugo Morelli asked that the word "suggest" be changed to "recommend" in order to make the statement have greater impact. Most of the participants agreed that this change was acceptable.

Comments:

DOE (2): Replace the word "suggest" with "recommend" or similar wording to make just a little stronger.

HHS (2): Add that peer panel is "outside expert" to help ensure that the reviewers are as aware as possible of current "state-of-the-art".

BOP (4): Option 4 is the option providing the best protection and least liability for protection from bogus technology.

GSA (2+4): Federal buildings should not be used as prototypes for new technology. Consensus approval and peer review are both necessary for acceptance. High damping and non-ductile prohibited.

FBO (2): Number 4 would be good practice, but agency should decide, not the ICSSC deciding. My suggestion is that number 4 be revised to say it is suggested that new technology approach consensus stage.

ISSUE 3.7 - Revising and Updating the Guidelines

Issue Statement: Once the Federal Guidelines are produced, how should they be revised and updated in the future?

Selected Alternative: 2. The Guidelines should be updated by the ICSSC, based upon experience of the agencies, on a regular basis, say every 3 to 5 years.

Discussion: It was agreed that the required updating of the Guidelines is necessary because voluntary updating would probably be neglected. The decision as to whether the ICSSC members or an outside contractor should update the Guidelines could be determined later. However, it was decided that a periodic update of the Guidelines would be better than on an "as needed" basis.

Comments: None.

Closing commentary - *Bill Holmes*:

To summarize, a number of important issues have been discussed and decided upon by the ICSSC at this Workshop which will be incorporated in the guidelines. The highlights include:

* The Guidelines will be a required minimum standard that will be updated by the ICSSC every 3-5 years.

* Innovative ideas could be utilized if approved by an outside, expert peer review panel.

* The overall goal of the program will be to reach seismic life-safety in all federal buildings in 35 years.

* A program will be outlined which includes: screening, evaluation (including adjacent buildings), prioritization and additional triggers, and strengthening, all to a minimum life-safety standard.

* Higher performance goals will be included for advisory purposes.

* Agencies will develop their own programs to show compliance, at a minimum, with the Guidelines.

* Incremental strengthening work that improves the performance of a building can be done at any time within the timeline milestones.

* Leased areas greater than 50% of a building or greater than 10,000 square feet in area will be included in the overall program but with flexibility to account for areas where complying space is unavailable.

* Procedures for historic buildings will be unchanged from status quo.

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ISSUES FOR DISCUSSION

(Numbers in the 1.n series were not covered in ATC 28. Other numbers are taken directly from identical or similar issues in ATC 28. The order in the listing is related to agenda sessions.) Strikeout and underline indicated changes made during the ICSSC issues workshop held September 16 and 17 in Denver.

AGENDA SESSION #1

1.1 Long Term Goals

Issue Statement

What are the realistic long term goals implied by "assessing and enhancing the seismic safety of existing Federal Buildings?"

Discussion

Several issues that will determine the tone and content of the Guidelines are closely related, including 1.2 Timelines, 1.3 Right to Know, 2.2 Determination of Applicability, and 11.2 Performance Goals. The resolution of these issues must be consistent and aimed at a common mitigation goal. The resolution of all of these issues will also undoubtedly be affected by Issue 1.4, Guidelines vs. Requirements, but that particular characteristic of the Guidelines will be considered separately.

ATC 28 determined that the most appropriate strengthening document that could be developed by FEMA was one that could be applied in a variety of conditions ranging from voluntary enhancement of the seismic safety of a building to full strengthening mandated by a local jurisdiction. The decision of when to strengthen a building and for what reasons were left to others (ATC 28 presumed the local community). For the congressionally required standards for existing federal buildings, the use of this strengthening document when it becomes available, as well as use of the currently available publications on rapid screening and detailed evaluation, will need to be controlled and directed with application guidelines. Such guidelines could be aggressive or passive, narrowly focussed or broad ranging, flexible or rigid, all depending on the long term goals of the program.

Mitigation goals, more specific than those mentioned in Public Law 101-64, should therefore be established that will guide the development of the Federal Guidelines, particularly the standards of application.

Alternatives

1. The Guidelines should embody no mitigation goals. This document should simply contain standards for evaluation and strengthening--to be used when deemed appropriate by the individual agencies.

2. The goal is to enhance seismic safety of federal buildings. No more definitive goal is needed or desirable. Normal attrition of older buildings, along with required strengthening in certain circumstances (e.g. substantial remodeling) will be satisfactory.

3. The Guidelines should contain standards of application that will reflect a goal to have all occupied federal buildings, in all zones, meet seismic life safety standards at a minimum. It is assumed that a refined initial screening process would be used which would eliminate from further consideration most buildings in low seismic zones.

3a. The Guidelines should contain standards of application that will reflect a goal to have all occupied federal buildings, in all zones, meet seismic standards appropriate for their mission.

4. The Guidelines should contain standards of application that will reflect a goal to have all occupied federal buildings in moderate and high seismic zones meet seismic life safety standards.

4a. The Guidelines should contain standards of application that will reflect a goal to have all occupied federal buildings in moderate and high seismic zones meet seismic standards appropriate for their mission.

5. The Guidelines should contain standards of application that will reflect a goal to have all occupied federal buildings in high seismic zones meet seismic life safety standards.

6. The Guidelines should contain standards of application that will reflect a goal to identify and mitigate hazards in the "worst" 50% of pre-seismic code buildings in moderate and high seismic zones.

7. The Guidelines should contain standards of application that will reflect a goal to identify and mitigate hazards in the "worst" 50% of pre-seismic code buildings in high seismic zones.

8. The Guidelines should contain standards of application that will reflect a goal to identify and mitigate hazards in the "worst" 10% of pre-seismic code buildings in moderate and high seismic zones.

9. The Guidelines should contain standards of application that will reflect a goal to identify and mitigate hazards in the "worst" 10% of pre-seismic code buildings in high seismic zones.

10. The Guidelines should contain standards of application that will reflect a goal to mitigate seismic life safety hazards in all zones above a (as yet undetermined) certain probabilistic risk

level. Note: The determination of a numerical life safety risk level in a given building is currently not a viable methodology--at least not to a level of accuracy or consensus that would be necessary to incorporate into the guidelines. However, considering the possible long term nature of the overall goal, the development of this concept may be a desirable goal in itself.

10a. The Guidelines should contain standards of application that will reflect a goal to mitigate seismic threats to mission in all zones above a (as yet undetermined) certain probabilistic risk level.

11. The Guidelines should contain standards of application that will reflect a goal to mitigate seismic hazards in all zones above a (as yet undetermined) certain benefit/cost ratio. The cost of life loss would be considered in such analysis similar to studies of highway and air travel safety. Note: Although a seismic strengthening benefit/cost methodology has recently been developed by FEMA (FEMA 227/228), the methodology does not as yet have consensus acceptance, and the input parameters are largely undeveloped. Similar to Alternative 10, however, if this concept is appropriate, development could be accelerated for eventual use in the federal inventory.

1.2 Timelines

Issue Statement

In what length of time should the seismic hazard mitigation goal of the Federal Guidelines be reached?

Discussion

The second most basic parameter that will control the content of application guidelines is the approximate (or exact) length of time that will be established to accomplish the mitigation goal. Whether the time period is established as a goal or deadline may well fall under Issue 1.4 Guidelines vs. Requirements, but this issue is intended to focus on what time period is appropriate.

Alternatives

1. Consistent with Alternatives 1 and 2 of Issue 1.1, no timelines should be reflected in the Guidelines.

2. Mitigation goals should be completed in 50 years with intermediate milestones as per 5.

2a. Mitigation goals should be completed in 35 years with intermediate milestones as per 5.

3. Mitigation goals should be completed in 25 years with intermediate milestones as per 5.

4. Mitigation goals should be completed in 10 years with intermediate milestones as per 5.

5. Mitigation goals should be completed in a given time frame (Alternative 2, 3, or 4) but intermediate times should be set for the more hazardous buildings.

6. Mitigation goals should be completed as soon as cost effective.

1.3 Right-To-Know

Issue Statement

What information concerning the seismic safety of existing federal buildings do the occupants (or the public) have the "right-to-know?"

Discussion

Should the federal government undertake a complete evaluation program because the public has a right-to-know about the seismic safety of federal buildings? Even without such a comprehensive program, once an evaluation is done, should the occupants be informed of the results? Should the evaluation be made public?

Alternatives

1. The public "right-to-know" concept is sufficient justification for a comprehensive evaluation program, the results of which would be made public.

2. Whenever a seismic evaluation is performed, the results must be made public.

3. Whenever a seismic evaluation is performed, the building must subsequently be "posted" using predetermined seismic risk categories.

4. Information on seismic evaluations will not be made public, but will be made available by the government if someone inquires.

4a. Information on seismic evaluations will not be made public, but will be made available by the government after agency action on the individual building but only if someone inquires.

4b. Information on seismic evaluations will not be made public, but will be made available by the government after agency approval of the individual report but only if someone inquires.

5. Information on seismic evaluations will be made available only through the mechanism of the Freedom-of-Information Act.

6. Legislation should be enacted to allow information on seismic evaluations to be kept confidential.

7. This issue should not be addressed in the guidelines.

2.2 Determination of Applicability (Implementation)

Issue Statement

Should the Guidelines contain a program for mitigation or "triggers" that would specify whether a given building requires strengthening?

Discussion

Many seismic hazard mitigation programs have been developed by federal, state, and local government, as well as private building owners. The steps in each program and methods of implementation vary considerably depending on the overall mitigation goal, the number and variety of buildings in the inventory, the apparent existing hazard level, and financing options. Specific "active" components may include 1) defining the inventory, 2) screening, 3) evaluation, 4) posting or other disclosure, 5) strengthening. "Passive" components of programs refer to requirements that only become effective if triggered by changes to the building, normally changes that will increase the life of the building (significant remodeling) or will increase the hazard level of the building (changes in occupancy).

Consistent with resolutions of issues concerning goals and timelines, a program needs to be developed. The alternatives are listed by separate components of an implementation program so that one alternative from each group should be selected.

Alternatives

1. No implementation program should be included in the Guidelines.

2. Inventory and Screening

2a. No screening should be done.

2b. Screening should be accomplished consistent with the overall goal of mitigation (See Issue 1.1).

2c. In lieu of 100% screening, subsets of hazardous buildings should be identified by building type.

3. Detailed Evaluation

3a. All buildings failing the screening criteria should be evaluated as soon as possible.

3b. All buildings failing the screening criteria should be evaluated when triggered by certain improvements to the building.

3c. All buildings covered by the overall goal statement should be evaluated when triggered by certain improvements to the building.

4. Strengthening

4a. All buildings failing the evaluation criteria should be strengthened (or otherwise disposed of) in accordance with predetermined priority criteria and timelines.

4b. All buildings failing the evaluation criteria should be strengthened as soon as possible.

4c. Buildings should only be strengthened in association with other major remodeling work or other passive triggers.

4d. All buildings failing the evaluation criteria should be strengthened in order determined by risk reduction per dollar spent.

AGENDA SESSION #2

1.4 Guidelines vs. Requirements

Issue Statement

Should the Federal Guidelines document be advisory, a recommended guideline, or mandatory?

Discussion

It is argued that "recommendations" or "guidelines" with no teeth will not be rigorously followed and therefore will not be effective. Others feel that a document containing absolute requirements would require a specific mechanism to pay the associated costs. The questions raised by this issue could be asked of both the administrative portion(overall program, timelines, etc.) and the technical portions (standards for evaluation, strengthening, etc.). It is useful to split the issue into these two aspects of the proposed guidelines.

1.4a Administrative Guidelines vs. Requirements

Should the seismic hazard mitigation program described in the guidelines be advisory, recommendations, or mandatory?

Alternatives

1. Agencies should consider utilizing the program identified in the guidelines document.

2. Adoption of a seismic hazard program for each agency is optional, but to assure consistency, programs implemented must follow the guidelines document.

3. All agencies must implement the program identified in the guidelines at a minimum.

1.4b Technical Guidelines vs. Requirements

Should the seismic hazard mitigation technical standards described in the guidelines be advisory, recommendations, or mandatory?

Alternatives

1. The Federal Guideline would be a reference document for information only.

2. Engineers performing seismic evaluation or strengthening on federal buildings must use the guidelines, or show that methods used are equivalent or more conservative than the guidelines.

3. Engineers performing seismic evaluation or strengthening on federal buildings must use the standards referenced in the guidelines.

1.5 Leased Buildings

Issue Statement

How can the federal government approach seismic hazard mitigation in leased buildings?

Discussion

If federal occupancy of a building is 100%, and the lease is long term, negotiations with the landlord to seismically strengthen in accordance with the Guidelines may be successful. If occupancy is only partial, or if the lease is short term, such agreements may not be possible. Guidelines for obtaining seismic hazard reduction in existing leased buildings will therefore be required.

Alternatives

1. Make no new leases or lease renewals in building that do not comply with seismic evaluation standards. Existing leases could be held without action until the lease expires. Leases on less than 50% portions of buildings would be treated the same as 100% leases.

2. Same as Alternative 1, except that major remodels of leased space would trigger requirements for the entire building to meet federal standards. Exceptions would be made for leases of less than 50% portions of buildings.

3. Same as Alternative 1, except that buildings with lease terms remaining of 25 years (exact time to be determined) or more would have to meet federal standards.

4. Require that all buildings with lease terms remaining of 3 years (exact time to be determined) or more be made to meet federal standards, or that the lease would be broken at the end of 3 years. Leases of less than 50% portions of buildings would be allowed to run out.

5. Make no new leases or lease renewals in buildings that do not comply with seismic evaluation standards for leased spaces greater than 10,000 sf or which comprise more than 50% of the building. If no seismically conforming space is available, otherwise acceptable space with the best seismic resistance can be taken.

Existing leases can be held without action until the lease expires unless the agency determines there are critical deficiencies.

Leased spaces and buildings within the program are not exempt from the overall mitigation timeline, regardless of lease length.

AGENDA SESSION #3

11.2 Seismic Performance Goals

Issue Statement

What seismic performance goals should be covered by the Federal Guidelines?

Discussion

Seismic performance goals are currently being discussed as having a more prominent role in codes for both new and existing buildings.
A well known model of desired performance for a variety of new and existing buildings is the matrix developed by the California Seismic Safety Commission for California's state owned buildings. Mandatory seismic strengthening at the level of local jurisdictions, however, has been developed almost solely for the single performance goal of life-safety. The NEHRP Handbook for seismic evaluation was developed only to determine if a building presents an unacceptable life safety risk. Guides for evaluation or strengthening to other levels of seismic performance are currently not well developed.

Alternatives

1. A life safety goal shall be used to define both evaluation and strengthening in the Guideline. Agencies must show cause to exceed these standards.

2. Same as Alternative 1 except agencies can meet or exceed these standards.

3. A full matrix of minimum performance goals vs. building type/use will be included in the Guidelines which would be used by each agency to establish performance goals for all of their buildings. Evaluation and strengthening standards for each performance goal would be included.

3a. An advisory matrix of minimum performance goals vs. building type/use will be included in the Guidelines which could be used by each agency to establish performance goals for all of their buildings. Evaluation and strengthening standards for each performance goal would be included. A life safety goal would be specified as minimum for all buildings.

4. Evaluation and strengthening standards for various performance goals would be included, but each agency would decide which goal to use for each building (with life-safety a minimum).

11.3 Incremental Strengthening

Issue Statement

Should the Guideline allow incremental strengthening and provide a systematic method for the definition of appropriate stepped strengthening levels?

Discussion

Incremental strengthening should first be differentiated from voluntary strengthening (Issue 11.4). Voluntary strengthening is meant to refer to strengthening done when there is no external requirement or policy to do so. Incremental strengthening refers to accomplishing strengthening in phases, which may leave a building in a partially strengthened state for some length of time. Voluntary strengthening often consists of incremental work. Incremental, however, as used here is not voluntary because it is meant to refer to phasing specified in the guidelines or permitted under conditions when full strengthening may have been indicated. ATC 28 suggests that incremental steps of seismic strengthening will be documented "to the extent possible." It is speculated that, considering the scope and complexity of the NEHRP Strengthening of Existing Building project, few, if any, incremental steps will be identified for individual building types in the final product. No other guidelines or standards currently exist for such work and it is therefore doubtful that procedures could be specifically included in the Federal Guidelines. Although such documentation is not considered essential for useful Federal Guidelines, the issue will undoubtedly come up on an agency level.

Alternatives

1. No incremental strengthening should be specified in the guidelines and none should be allowed, even when voluntary (see also Alternative 1 of Issue 11.4).

2. Same as Alternative 1, except that incremental strengthening would be acceptable when done voluntarily if it is shown to improve the seismic performance.

2a. It should be specified that incremental strengthening is acceptable only if it can be shown that no other portion or element in the building will be made worse. The overall timelines and program milestones would not be changed.

3. Incremental strengthening should be specified in the guidelines to the extent possible, but should not be permitted in cases when full strengthening would normally be required.

4. Phased incremental strengthening would be acceptable in all cases where it is acknowledged that the balance of work is scheduled for later phases, and within the mitigation timeline.

11.4 Voluntary Strengthening

Issue Statement

If strengthening is not indicated to be immediately necessary for a building by the Guidelines, is voluntary strengthening to a standard below the minimum acceptable?

Discussion

See discussion under Incremental Strengthening.

Alternatives

1. Strengthening below the minimum standard, as specified in the Federal Guidelines, should never be allowed.

2. It should be specified in the Guidelines that voluntary strengthening is acceptable only if it can be shown that no other portion or element in the building will be made worse.

3. Voluntary strengthening should be assumed to be acceptable, and should not be covered in the guidelines.

AGENDA SESSION #4

8.2 Standards for Historic Buildings (on or eligible for the Federal Register)

Issue Statement

Should the Federal Guidelines treat Historic Buildings the same as other buildings?

Discussion

The number of Historic buildings under federal jurisdiction and the significant effect that their treatment will have on any federal seismic hazard mitigation program suggests that this issue should be examined specifically as it applies to the Federal Guideline. Two separate issues need to be addressed for the federal program, one dealing with the appropriate strengthening level for these buildings, and one dealing with controls to maintain the historic fabric of the buildings.

8.2a Performance Goals for Historic Buildings
What seismic performance goal should be specified for Historic Buildings?

Alternatives

1. Historic buildings should meet the same minimum life safety criteria as other buildings. This will provide occupants and the public with a consistent level of safety. Historic buildings therefore need not be specifically mentioned in the Federal Guidelines.

2. Historic buildings, in general, should meet the same minimum life safety goals as other buildings. However, considerable flexibility should be allowed to preserve essential historic features; such considerations in aggregate, however, may result in poorer performance that other buildings.

3. Historic buildings should have performance standards set for damage control. The originality of the construction and the historic and architectural value that merits preservation should be seismically protected against irreparable damage and subsequent loss of the building. Preservation also implies consideration of a longer time span than normal buildings, which in some areas of the country would significantly increase the severity of the design ground motion.

4. Because of the inherent conflicts between Alternatives 2 and 3 above, performance standards for each historic building should be set individually by a panel of experts based upon local seismicity, the historical importance of the building, and feasible methods of strengthening. This procedure would require an initial categorization of the federal inventory to determine which "historic" buildings would be treated normally and which would require this special procedure.

8.2b Protection of Historic Fabric

What controls are necessary to insure that historic fabric is not being compromised by seismic strengthening?

Alternatives

1. Consistent with Alternative 1 of issue 8.2a, no specific mention of historic buildings is needed in the Federal Guidelines. Agencies have sufficient controls in place to deal with this issue.

2. Establishment of performance goals (see 8.2a) and reference to existing publications such as The Secretary of the Interior's "Standards for Historic Preservation Projects" will adequately protect fabric which is meant to represent the current procedures.

3. A national group should be identified or established to act as a review board. All projects incorporating seismic strengthening of historic federal buildings would be reviewed and approved by this group which is meant to represent the current procedures.

4. A new pamphlet or standard specifically covering the issue of protection of historic fabric while seismically strengthening historic federal buildings should be created. Such a reference would provide sufficient guidance for agency's use.

5. Utilize the procedure of Alternative 4 of issue 8.2a to deal with all the issues stemming from seismic strengthening of historic federal buildings.

12.10 Adjacency Conditions

Issue Statement

How should adjacency conditions such as pounding or common walls be taken into account?

Discussion

The ATC 28 resolution of this issue would suggest that the strengthening of a given building with adjacency problems could require work on adjacent structures. It will be difficult to accomplish this procedure with federal buildings because of probable lack of jurisdiction on adjacent structures. However, damage patterns, particularly in Mexico City and in Loma Prieta, and disputes between owners after Loma Prieta, would indicate that this complex problem cannot be ignored. It is convenient to consider pounding and common walls separately and the two issues are considered below.

12.10a Seismic Separations/Pounding

How should potential pounding or interaction with an adjacent building of non federal ownership be taken into account?

Alternatives

1. Due to legal and technical complications, include no adjacency or seismic separation provisions in the guidelines.

2. Require that existing buildings, when strengthened, be brought into compliance with seismic separation standards for new buildings.

3. Require consideration of the results of impact or interaction with adjacent structures. If analysis indicates that strengthening of the federal buildings may increase damage to an adjacent building, mitigation of this detrimental action on the adjacent structure would be paid for by the federal government.

4. The owners of potentially interacting structures would be notified prior to any strengthening project. They would be invited to review plans for the federal building.~~and obtain their own engineering opinion concerning possible effects on their structure. The government would not assume liability for possible mitigation measures on adjacent structures.~~

12.10b Common Walls

How should co-ownership of common walls with non federal neighbors be taken into account?

Alternatives

1. Due to legal and technical complications, include no specific provisions for common walls in the guidelines.

2. Require that common wall be eliminated by negotiation with the co-owner and revisions to the structure along these lines (or by selling the building).

3. Require consideration of the results of interaction with adjacent structures. If analysis indicates that strengthening of the federal buildings may increase damage to an adjacent building, mitigation of this detrimental action on the adjacent structure would be paid for by the federal government.

4. The owners of potentially interacting structures would be notified prior to any strengthening project. They would be invited to review plans for the federal building.~~and obtain their own engineering opinion concerning possible effects on their structure. The government would not assume liability for possible mitigation measures on adjacent structures.~~

21.10c How should damage from failure of adjacent buildings be considered?

Alternatives

1. This problem should not be covered in the guidelines.

2. Risks from adjacent buildings should be included in evaluations. Solutions should be developed on a case by case basis.

3. Risks from adjacent buildings should be included in evaluations. Strengthening should not be carried out unless minimum performance standards are not including damage from adjacent building. Building strengthened or disposed of within timeline.

4. Risks from adjacent buildings should be included in evaluations. If damage from adjacent building is unacceptable, the building should be disposed of, or the adjacent building mitigated by the government.

9.1 Innovative Risk Reduction Methods
12.12 Alternate Analysis Methods

Issue Statement

How can innovative risk reduction or analysis methods that are not covered in the Guidelines be accommodated without undue delays?

Discussion

These issues which were listed separately in ATC 28 were combined here because they both deal with "equivalent alternates" to accepted guidelines or standards. There is concern that potentially cost effective technologies will not be utilized because of a lack of an approval process. Others will argue that since in many cases life safety is at stake, caution is justified, and until consensus is reached among the technical community concerning such technology, it should not be used, particularly on government buildings.

Alternatives

1. No control of the utilization or approval of new technology should appear in the Guidelines.

2. The Guidelines should ~~suggest~~ recommend that project specific outside, expert peer review panels be created when new technology is proposed.

3. An interagency technical group (perhaps from the ICSSC, or NIST) should be created to approve the use of new technology, either on a project by project basis, or on a technology by technology basis.

4. New technology should not be permitted on federal buildings until consensus standards exist for its use.

3.7 Revising and Updating the Guidelines

Issue Statement

Once the Federal Guidelines are produced, how should they be revised and updated in the future?

Discussion

It is expected that the FEMA Strengthening Guideline that is currently being developed by BSSC/ATC/ASCE will eventually form the heart of the technical portion of the Federal Guidelines. Other standards may also be developed that should be incorporated.

Alternatives

1. The Guidelines will seldom need updating and therefore no mechanism for such changes is needed.

2. The Guidelines should be updated by the ICSSC, based upon experience of the agencies, on a regular basis, say every 3 to 5 years.

3. The Guidelines can be updated by the ICSSC on an as-needed basis.

4. The Guidelines could be "maintained" by another organization such as BSSC or ASCE.

315WTH

MIST BALLOT RESULTS
9/16/92

	Interior	DOE	TVA	Army	GSA	BOP	Commerce	DOT	FBO	FEMA	HHS	VA	TOTAL	Comm
SESSION I														
1.1 LONG-TERM GOALS														
1 None													0	
2 Normal attrition													0	
3 Life-safety everywhere	1		1	1			1				1		5	*
3a "3" w/ appropriate standards		1								1			2	
4 Life-safety moderate & high						1			1				2	**
4a "4" w/ appropriate standards					1							1	2	*
5 Life-safety high													0	
6 Mitigate worst 50% mod & high													0	
7 Mitigate worst 50% high													0	
8 Mitigate worst 10% mod & high													0	
9 Mitigate worst 10% high													0	
10 Mitigate to risk level								1					1	
10a risk w/ appropriate standards													0	
11 Mitigate for benefit cost													0	
1.2 TIMELINES														
1 None													0	
2 50 years w/ priorities		1		1	1				1				4	**
3 25 years w/ priorities	1		1				1	1			1		5	*
4 10 years w/ priorities										1			1	
5 Prioritize (no specific time)						1						1	2	*
1.3 RIGHT-TO-KNOW														
1 Comprehensive evaluations													0	
2 Public disclosures		1						1					2	
3 Posting													0	
4 Available	1		1	1			1			1	1		6	*
4a "4" after agency action					1				1			1	3	*
5 Freedom-of-Information													0	
6 Confidential													0	
7 Abstain						1							1	*
2.2 DETERMINATION OF APPLICABILITY														
1 None													0	
2a No screening													0	
2b Screening	1	1	1	1	1	1	1	1	1	1	1	1	12	
2c Building Types													0	
3a Evaluation	1	1	1	1	1	1	1	1	1	1	1	1	12	
3b Screen/triggered evaluation													0	
3c Triggered evaluation													0	
4a Strengthen with priority	1	1	1	1	1	1	1	1	1	1	1	1	12	*
4b Strengthen if deficient													0	
4c Strengthen when triggered													0	

	Interior	DOE	TVA	Army	GSA	BOP	Commerce	DOT	FBO	FEMA	HHS	VA	TOTAL	Comm
SESSION II														
1.4 GUIDELINES VS. REQUIREMENTS														
1.4a ADMINISTRATIVE														
1 For information only													0	
2 Optional													0	
3 Required	1	1	1	1	1	1	1	1	1	1	1	1	12	*
1.4b TECHNICAL														
1 Reference													0	
2 Minimum standards	1	1	1	1	1	1	1	1	1	1	1	1	12	**
3 Standards													0	
1.5 LEASED BUILDINGS														
1 No renewals											1		1	*
2 No renewals plues triggers													0	
3 No renewals plus long term													0	
4 Strengthen or break lease						1							1	*
5 Comprimise	1	1	1	1	1		1		1	1		1	9	**
6 Abstain								1					1	

	Interior	DOE	TVA	Army	GSA	BOP	Commerce	DOT	FEMA	NHS	VA	TOTAL	Comm
SESSION III													
11.2 SEISMIC PERFORMANCE GOALS													
1 Life-safety												0	
2 Life-safety as minimum			1	1		1						3	
3 Matrix defined												0	
3a Matrix advisory (LS mandatory)	1	1			1			1	1	1	1	8	
4 Matrix optional							1					1	
11.3 INCREMENTAL STRENGTHENING													
1 None					1							1	
2 Voluntary OK		1		1		1			1			4	***
3 When specified											1	1	
4 OK if phased	1		1				1	1		1	1	6	*
11.4 VOLUNTARY STRENGTHENING													
1 Not allowed below minimum												0	
2 OK if not worse	1	1	1	1	1	1	1	1	1	1	1	12	**
3 OK												0	

	Interior	DOE	TVA	Army	GSA	BOP	Commerce	DOT	FBO	FEMA	HHS	VA	TOTAL	Comm
SESSION IV														
8.2 STANDARDS FOR HISTORIC BUILDINGS														
8.2a PERFORMANCE GOALS														
1 Not specifically covered						1							1	*
2 Life-safety with flexibility	1	1	1	1	1		1		1	1	1	1	10	*
3 Damage control													0	
4 Sec by panel								1					1	
8.2b PROTECTION OF HISTORICAL FABRIC														
1 Not specifically covered						1			1				2	*
2 Existing reference standards													0	
3 Review board													0	
2+3 Existing + Panel	1	1	1	1	1		1	1		1	1	1	10	**
4 New pamphlet													0	
5 Panel review													0	
12.10 ADJACENCY CONDITIONS														
12.10a SEISMIC SEPERATIONS/POUNDING														
1 None						1							1	*
2 New building standards													0	
3 Government fix adjacent bldg										1			1	
4 Notify adjacent owner	1	1	1	1	1		1	1	1		1	1	10	
12.10b COMMON WALL														
1 None						1							1	*
2 Structural modification													0	
3 Government fix adjacent bldg										1			1	
4 Notify adjacent owner	1	1	1	1	1		1	1	1		1	1	10	
12.10c ADJACENT BUILDINGS														
1 None													0	
2 Case-by-case	1	1	1	1	1	1	1	1	1	1	1	1	12	***
3 Can't solve/dispose bldg													0	
4 Dispose or mitigate by gov't.													0	
9.1 INNOVATIVE RISK REDUCTION METHODS														
12.12 ALTERNATE ANALYSIS METHODS														
1 No control													0	
2 Peer review	1	1	1	1	1		1	1	1		1	1	10	*****
3 Approval group													0	
4 Consensus guidelines						1							1	
1+2 Combined										1			1	
9.7 REVISING AND UPDATING THE GUIDELINES														
1 No mechanism													0	
2 ICSSC 3 to 5 years	1	1	1	1	1	1		1	1		1	1	10	
3 ICSSC as needed							1			1			2	
4 Maintained by others													0	

NIST BALLOT RESULTS - DAY 2
9/17/92

	Interior	DOE	TVA	Army	GSA	BOP	Commerce	DOT	FEO	FEMA	HHS	VA	EPA	TOTAL	Comm
SESSION I															
1.1 LONG-TERM GOALS															
1 None														0	
2 Normal attrition														0	
3+ Life-safety everywhere	1	1	1	1		1	1	1		1	1		1	10	
3a "3" w/ appropriate standards														0	
4 Life-safety moderate & high									1					1	*
4a "4" w/ appropriate standards					1							1		2	
5 Life-safety high														0	
6 Mitigate worst 50% mod & high														0	
7 Mitigate worst 50% high														0	
8 Mitigate worst 10% mod & high														0	
9 Mitigate worst 10% high														0	
10 Mitigate to risk level														0	
10a risk w/ appropriate standards														0	
11 Mitigate for benefit cost														0	
1.2 TIMELINES															
1 None														0	
2 50 years w/ priorities					1									1	
2a 35 years w/ priorities	1	1	1	1		1	1	1	1	1	1	1	1	12	
3 25 years w/ priorities														0	
4 10 years w/ priorities														0	
5 Prioritize (no specific time)														0	
1.3 RIGHT-TO-KNOW															
1 Comprehensive evaluations														0	
2 Public disclosures														0	
3 Posting														0	
4 Available														0	
4a "4" after agency action														0	
4b "4" after agency approves rpt														0	
5 Freedom-of-Information														0	
6 Confidential														0	
7 Not addressed in Guidelines	1	1	1	1	1	1	1	1	1	1	1	1	1	13	
1.5 LEASED BUILDINGS															
1 No renewals											1			1	
2 No renewals plus triggers														0	
3 No renewals plus long term														0	
4 Strengthen or break lease						1								1	
5 Compromise	1	1	1	1	1		1	1	1	1		1	1	11	*
6 Abstain														0	

	Interior	DOE	TVA	Army	GSA	BOP	Commerce	DOT	FBO	FEMA	HHS	VA	EPA	TOTAL	Comm
SESSION II															
11.3 INCREMENTAL STRENGTHENING															
1 None														0	
2 Voluntary OK														0	
2a Voluntary compromise	1	1	1	1	1	1	1	1	1	1	1	1	1	13	
3 When specified														0	
4 OK if phased														0	
11.2 SEISMIC PERFORMANCE GOALS															
1 Life-safety														0	
2 Life-safety as minimum														0	
3 Matrix defined														0	
3a Matrix defined (LS mandatory)	1	1	1	1	1	1	1	1	1	1	1	1	1	13	
4 Matrix optional														0	