

BUILDING OCCUPANCY RESUMPTION PROGRAM (BORP)

Guidelines for Engineers

Introduction

The Building Occupancy Resumption Program (BORP) is a program developed by the City and County of San Francisco, Department of Building Inspection, with the cooperation of the Structural Engineers Association of Northern California (SEAONC) and San Francisco chapters of the Building Owners and Managers Association (BOMA) and the American Institute of Architects (AIA). The program allows San Francisco building owners to pre-certify private post-earthquake inspection of their buildings by qualified engineers and specialty contractors upon DBI acceptance of a written inspection program.

The Building Occupancy Resumption Program consists of three basic phases. The first is the assessment of the building and preparation of a BORP program, including a building-specific post-earthquake inspection plan. The second phase includes annual update and renewal activities, the maintenance portion of the work. The third phase is the post-disaster implementation of the program.

Purpose

The purpose of these guidelines is to assist engineers with the preparation of Building Occupancy Resumption Program documents and to encourage a uniform format.

Phase I – BORP Submittal

Owner/Engineer Agreement

You should have owner/engineer agreements covering work for each of the three BORP phases. The intent of the program is that the engineers who develop the inspection plan become the individuals who maintain their training in ATC 20 procedures and building-specific inspection exercise, participate in annual DBI update activities, and inspect the buildings to which they are assigned after the next major earthquake. Because considerable time may elapse between the development of a BORP program and its implementation, it may be more practical to separate the BORP activities into two or three discrete agreements.

Draft an agreement between your firm and the building owner or owner's authorized agent to assess the building's condition. The minimum standard for this condition assessment is the ATC 20 Procedures for Postearthquake Safety Evaluation of Buildings, Detailed Evaluation. Some owners or engineers choose a more complete engineering evaluation. An agreement for Phase I work should include the following tasks:

- a. Choose structural inspectors who meet qualification license and experience criteria.
- b. Obtain building construction drawings, if available.
- c. Identify building structural system.
- d. Write inspection plan.
- e. Develop building information, evacuation plan, inspector response requirements, equipment and drawing locations, and other pertinent information.
- f. Prepare precertification documentation.
- g. Submit written building emergency inspection program, including inspection plan.
- h. Revise, correct, or add information as requested by BORP review committee.

Preparation

Follow the directions given in the Building Occupancy Resumption Program (Attachment A), using the checklist, format, and forms provided.

Signatures

Obtain signatures of the owner's representative and the elevator and life safety inspectors. Initiate this task as early as possible. One of the more time-consuming tasks associated with preparation of a submittal is obtaining the required signatures of the elevator and life safety inspectors. The owner's representative is often involved in the process, so that signature should be easy to get. But, unless you have some prior communication with the elevator firm and life safety system maintenance people, they may be suspicious of your asking for signatures certifying their responsibilities.

An effective way of handling this is to:

- a. Call them, introduce yourself, and tell them about the BORP program and that the building owner is requesting their participation.
- b. Tell them you will be sending them a letter [See Attachment B] and forms that the building owner wants them to sign and return to you as soon as possible.
- c. Mail the letter and forms to them, including a self-addressed stamped envelope for their use.

If they have some idea of the extent of their responsibilities and know that the form is coming in the mail, they won't be as likely to involve their attorneys - of if they do, they may have already discussed the matter before the material arrives. An example of a letter you might send is provided as Attachment B.

Phase II - BORP Maintenance Program

It is important to develop the program so that it can be maintained over many years. Changes may occur in the building, inspection personnel, and client relationships. An agreement for this phase of the work may also be combined with either the Phase I or Phase III tasks.

Owner/Engineer Agreement

An agreement for Phase II work should include the following tasks, some of which may be performed by the building owner:

- a. Obtain and store emergency earthquake safety and inspection equipment/supplies.
- b. Update inspection plan if changes have been made to building.
- c. Maintain and replenish inspection supplies and equipment, if needed.
- d. Select qualified replacements for any engineers who are no longer assigned to the building.
- e. Participate in annual DBI update seminars.
- f. Maintain proficiency in ATC 20 procedures.
- g. Conduct exercises to maintain inspection plan familiarity.
- h. Submit Annual Renewal form.

Phase III - BORP Emergency Inspection Services Agreement

In order to promptly respond to your call to request BORP emergency inspection services, it will be mutually beneficial to have the terms and conditions for the emergency inspection services pre-authorized by the building owner or owner's representative in advance of the next major earthquake. That way this important detail will be resolved in advance. The events that would trigger the emergency inspection procedures, along with the associated scope of work, schedule, limits of liability, and fee are summarized in the example agreement below.

Scope of Work and Schedule

The Structural Engineer will provide the following emergency structural inspection services for the building located at [insert Building Address], San Francisco in accordance with the requirements of the Building Occupancy Resumption Program (BORP). The services include an ATC-20 Detailed Evaluation, upon which a post-earthquake inspection plan is based. A flow chart showing the normal, ATC-20, building safety evaluation process is included as Attachment C. Following are activities to be included in the Phase III services.

- a. Upon notification of an earthquake resulting in a declared state of emergency and/or authorization by the Client to proceed with the BORP inspection, initiate emergency inspection program within 8 hours of daylight access to building or as indicated in the inspection plan. It is understood that the engineers will give their best effort to respond as promptly as circumstances will allow.
- b. Contact DBI immediately if building or area (including sidewalk, street, or parking area) presents a public safety hazard or if an emergency demolition or shoring permit is needed.
- c. Arrange for barricading of all unsafe areas. Contact the Department of Public Works immediately if areas barricaded include a City street or otherwise adversely affect City services, or if barricades provided by the building owner are insufficient.
- d. Complete ATC-20 Detailed Evaluation as soon as reasonably possible.
- e. Post building (green, yellow, or red) at the main entry of the building or at all entrances of multi-entrance buildings.
- f. Take preventative measures regarding gas leaks, release of hazardous materials, or other life-safety mitigation.
- g. At owner's and inspector's discretion, non-structural hazards may be mitigated without a building permit.
- h. Submit ATC-20 Detailed Inspection report (Appendix G) signed and dated by pre-qualified engineer(s) to DBI within 72 hours of the declared state of emergency and to the Client, as agreed. If the reports are not received at that time, an inspection may be made by City inspectors or deputized volunteer inspectors using standard citywide inspection criteria.
- i. Qualified specialty contractors who are familiar with the building's elevator, HVAC, plumbing, fire protections system, electrical system and related life-safety systems will participate in the inspection under a separate agreement with the building owner's representative. The specialty contractors will report their findings to the structural inspectors.

The services do not include the higher level ATC-20 Engineering Evaluation.

Estimated hours to Conduct an ATC-20 Detailed Inspection

An estimate of approximate hours is provided below in the following table. The actual cost may vary. The time required to coordinate with all of the significant parties involved in the inspection may vary greatly. We anticipate that the inspection could be conducted in about a half a day with a team of two engineers.

Representative 7-story building - San Francisco		
Main Floor Square Footage	43,313 Sq. ft.	
Roof	6,188	
Basement	6,188	
<u>Total Area</u>	<u>55,688 Sq. ft.</u>	
Task	Hours	Remarks
Travel to site	2.0	
Meet with owner's representative	1.0	
Locate supplies	0	
Coordinate with other emergency inspectors	1.5	
Assess and arrange barricading of unsafe areas	1.0	
Contact DBI regarding safety hazards and permits		Varies
Inspect exterior cladding, veneer & plumbness	1.0	
Perform floor-by-floor walkdown (@ 1 hour/25,000 sq.ft)	2.2	
Complete ATC 20 Detailed Evaluation forms	1.0	
Complete placard & post building entrances (based on 2)	0.5	
Administrative	2.0	
Total	12.2	

Fees

The inspection services will be billed to you on a time and materials basis. A copy of our current standard billing rates is included for your reference. The rates are usually revised annually and will be billed at the current rates at the time the inspections occur.

Limits of Liability

The [Structural Engineer] in cooperation with the City of San Francisco is participating in the Building Occupancy Resumption Program (BORP) to assist building owners to obtain timely building inspection in the event of an emergency post-earthquake situation. As City-authorized building inspectors, [The [Structural Engineer] expects the same exemptions from liability as is provided to the City building inspectors or deputized State OES volunteers for emergency inspection services who would otherwise be performing the post-earthquake inspections. [The Client] agrees to indemnify and hold harmless [The Structural Engineer] and all subsidiary companies and employees against any claims including third-party claims in association with the San Francisco BORP program.

Termination

Either party may terminate the agreement at any time by giving 30 days written notice. The Client shall notify the City of any change in ownership or engineering firm. The Structural Engineer shall notify the City of any termination of services related to the Building Occupancy Resumption Program.

Signatures

Please sign below to indicate your agreement to these terms and return an original copy to [the Structural Engineer] for inclusion in the BORP submittal documents. Please contact [the Structural Engineer] should you have any questions or comments. Thank you.

Sincerely,

[Structural Engineer
Company Name]

x _____
[Client, Building Owner/Manager] Date

ATTACHMENT A
[please download Building Occupancy Resumption Program]

ATTACHMENT B
Example Letter to Elevator or Life Safety System Maintenance Firm

[Date]

[Elevator or Life Safety System Maintenance Firm - Name and Address]

Subject: [Building Name and Address]
Building Occupation Resumption Program (BORP)

Dear :

On behalf of the [building owner], I am writing to request your company's participation in the BORP program. The services of [your company] are requested to inspect the [elevator or life safety] system at [building address] in the event of a major earthquake and the activation of the BORP plan.

The Building Occupancy Resumption Program is administered by the City and County of San Francisco, Department of Building Inspection. The program allows San Francisco building owners to pre-certify private post-earthquake inspection of their buildings by qualified engineers and specialty contractors upon DBI acceptance of a written inspection program. I have included some information about the BORP program for your review.

Also enclosed, please find the BORP – Emergency Inspector Authorization form that will be part of the written inspection program. The form states that your company is familiar with the building's [elevator or life safety] systems, has access to relevant drawings, and that your company will report inspection findings to the structural inspector. Please sign and date the form, and return it to me by [date]. A self-addressed stamped envelope is enclosed for your convenience. Please note that your agreement to provide this service should be made directly with [building owner representative].

A copy of the completed emergency inspection plan will be stored on site along with inspection supplies and pertinent construction drawings of the building's architectural, structural and life-safety systems for use during future post-earthquake inspections. Please contact [building owner representative] if you would like to examine the completed report.

Thank you for your participation. Please call me at [BORP engineer phone number] if you have any questions.

Sincerely,

[BORP engineer]

Encl. "Building Owners: WHY BORP?"
"ENGINEERS: WHY BORP?"
"Building Occupancy Resumption Program"

cc: [building owner representative]

ATTACHMENT C
[please download BORP Flowchart]