

ASCE/ASEE engineering performance information center (EPIC)

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4. ASCE/ASEE Engineering Performance Information Center (EPIC)

IABSE was recently informed of the EPIC project, shortly described hereafter.

IABSE members are invited to contribute to this very promising programme or/and to ask for further information to:

EPIC Project
Engineering Counsel
10408 Montgomery Ave
Kensington, MD 20795
USA

The ultimate objective of EPIC is the prevention of structural failures and the improvement of structural systems. It is predicated upon the premise that the systematic collection, collation, analysis and dissemination of information on incidents involving these failures will significantly further this objective.

Before deciding on this approach, the ASCE Performance of Structures Research Council spent over five years in studying the need, utility and feasibility of establishing an EPIC program. In the course of this study, practitioners, academics, government officials, insurance executives, legal specialists, et al. were contacted for their views on such an undertaking and these inquiries were made on an international basis. Over 1500 citations of structural failures were collected and a set of computer programs were developed to support an EPIC Program.

NOTES ON STRUCTURAL CASE REPORT NARRATIVE VERSION

I Identification of Structure

- 1.* Complete name of structure and numerical designation, if any.
2. For buildings — address; for bridges — nearest place milestone, river, etc.; for other structures appropriate topographic feature; for all structures latitude & longitude, if available.
- 3.* Legal owner's name and address.
4. Type of structure: building, bridge, tunnel, dam, etc.
5. Use of structure: warehouse, office, railway, sports arena.
6. Construction: steel frame, Parker truss, pre-stressed tank, etc.
7. General dimensions.
8. Original construction cost.
9. Original date of completion.
10. Date of last alteration, if any.

II Description of Failure

11. Date & time at which failure occurred.
12. Was this failure a total collapse; a loss of safety; or the onset of unserviceability?

13. Type of persons & severity of injury; bystander hurt, worker suffocated, foreman crushed to death by scaffolding, etc.
14. General description of deficiency associated with failure; its extent and severity.
15. Construction, alteration, demolition phase; or if in service, how long?
16. What loads were on structure at time of failure: Give both nature & magnitude.
17. What was condition of structure, especially at critical points at time of failure, severely rusted at connections, corbels cracked, shell spalled at edge beams, etc.
18. What occurred prior to failure and what subsequently happened? Warning? Progressive failure?

III Analysis of Failure

19. What triggered the incident?
20. What loads, environmental or accidental agents or other physical factors caused failure?
21. What physical deficiencies were present in the structure that contributed to but did not alone cause failure.
22. In what phase (planning, analysis, design, documentation, fabrication, construction, alteration, demolition, service) did the critical flaw occur?
23. Which code violations, if any, contributed to or were responsible for the failure?
24. What procedural errors or omissions (erroneous loading assumptions, calculational errors, poor inspection, misreading of specifications, lack of supervision, etc.) permitted the failure factors to occur?
25. Who was legally culpable? Who paid damages? Did arbitration or litigation settle case? How long to settlement?
26. What was cost of remedial work? personal injury? replacement? operating losses? legal fees? loss time?

IV Administrative Data

27. Name and profession.
28. Address of reporter.
29. Organizational affiliation and telephone number of reporter.

V Citations

30. Citations used in compiling report.

* These items may be deleted if confidentiality is necessary.