ABSTRACT

IMPLEMENTATION OF THE LRFD SPECIFICATIONS
AND THE DYNAMICS OF CHANGE

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The American Association of State Highway and Transportation Officials
(AASHTO) LRFD Bridge Design Specifications were adopted as a 1994 document as an
equal alternative to the traditional Standard Specifications for Highway Bridges for
highway bridge design in the United States. Years later, the Federal Highway
Administration of the U.S. Department of Transportation mandated that all highway
bridge projects funded by federal dollars and begun from October 2007 forward must be
designed to the newer specifications. The adoption of the LRFD Specifications was
relatively quick. The gestation period turning the newly adopted specifications into the
norm has been torturously long.

Herein, the philosophy taken in the development of the LRFD Specifications and
decisions made, both technical and political, are reviewed within the context of the long,
and vocally debated road to full implementation. In retrospect, the important decision to
combine a new design methodology, probabilistic based load and resistance factor design
(LRFD), with many state-of-the-art advances in the calculation of loads and resistances
has proven questionable. Further, the decision to pass judgment on the specification as a
whole and not as separate pieces, while resulting in quick adoption, has resulted in slow
implementation as one or another controversial piece of the specifications can result in
opposition by a bridge owner to the entire specifications.

A strategy to speed the process of full implementation of the LRFD Specifications
is proposed. The lessons learned from the LRFD development and potential solutions to
the problems encountered are presented for the benefit of future code writers and
innovators.