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LONG-RANGE PLAN. NATIONAL QUALITY INITIATIVE

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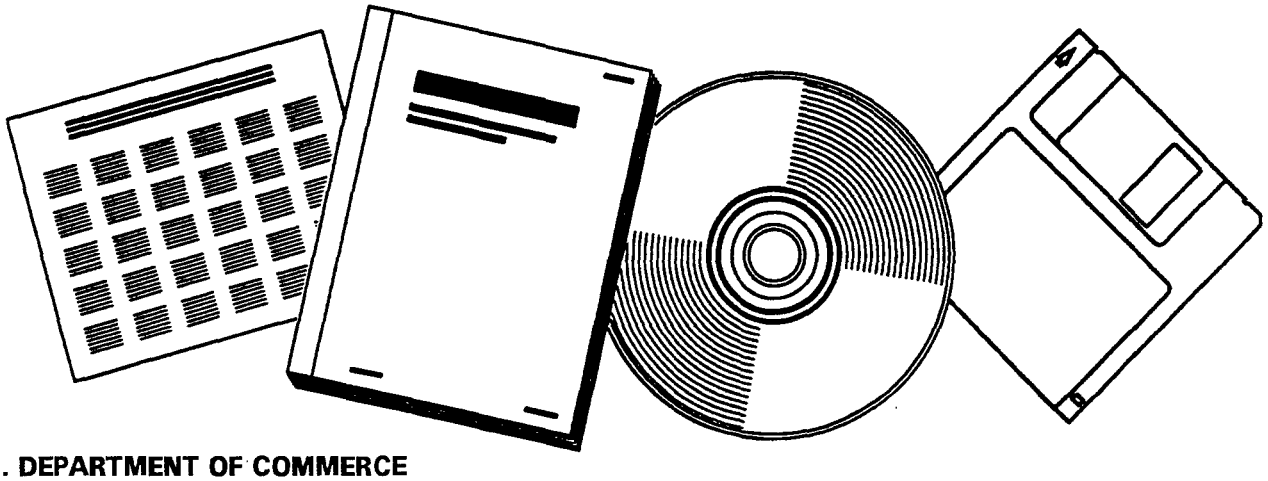

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

Long-Range Plan

National Quality Initiative

U.S. Department
of Transportation
Federal Highway
Administration

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October 1997

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TABLE OF CONTENTS

NATIONAL QUALITY INITIATIVE LONG-RANGE PLAN—OCTOBER 1997 ---------- 1
I. INTRODUCTION ---------- 1
II. PURPOSE ---------- 1
III. SCOPE ---------- 2
IV. MISSION AND OBJECTIVES ---------- 2
V. IMPLEMENTATION ACTIVITIES ---------- 2

ACTIVITY/NATIONAL POLICY PRINCIPLE CROSS REFERENCE ---------- 3

NATIONAL POLICY PRINCIPLES ---------- 5

OBJECTIVE 1: Promote and disseminate information on quality enhancement practices throughout the highway community ---------- 6
Activity 1-A: Information Exchange System ---------- 6
Activity 1-B: NQI Videotape ---------- 7
Activity 1-C: NQI Newsletter ---------- 8

OBJECTIVE 2: Increase public awareness of quality improvement accomplishments and activities ---------- 9
Activity 2-A: Maintain NQI Presence on the Internet ---------- 9
Activity 2-B: General Press Releases ---------- 10
Activity 2-C: Congressional Communications ---------- 11

OBJECTIVE 3: Promote and support technologies that enhance highway quality ---------- 12
Activity 3-A: Promote Quality Improvement Workshops ---------- 12
Activity 3-B: Support Quality Related Research and Development ---------- 13
Activity 3-C: NQI "Toolbox" ---------- 14

OBJECTIVE 4: Widely recognize exemplary quality efforts ---------- 15
Activity 4-A: Present National Quality Award(s) ---------- 15

OBJECTIVE 5: Ensure continued national emphasis on the continuous quality improvement in the design, construction, and maintenance of highway facilities ---------- 16
Activity 5-A: Sponsor National and Regional NQI Seminars ---------- 16
Activity 5-B: Support State-Level Quality Initiatives ---------- 17

OBJECTIVE 6: Promote customer focus and measurement of quality in the highway industry 18
Activity 6-A: Highway User Survey ---------- 18
Activity 6-B: Promote National Highway Quality Measurement Systems ---------- 19

OBJECTIVE 7: Promote and support joint education and training ---------- 20
Activity 7-A: Recommend Training Efforts ---------- 20

APPENDIX A — National Policy on the Quality of Highways ---------- 21

NATIONAL QUALITY INITIATIVE
LONG-RANGE PLAN
October 1997

I. INTRODUCTION

A unique partnership—termed the "National Quality Initiative" (NQI)—was formed in 1992 by the Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), and various industry associations to focus attention on continuous quality improvement within the highway industry.

The official beginning of the NQI was a 1-day "Partnerships for Quality" seminar held on November 10, 1992, in Dallas, Texas. This seminar was attended by top State highway and FHWA management and key highway industry officials. At that seminar a jointly developed "National Policy on the Quality of Highways" was adopted by all the participating organizations during a signing ceremony at the seminar. The policy calls on each participating organization to pledge a continuing commitment toward quality products and services through a partnership approach within the highway industry. This approach will ensure that the United States furthers its role as a world leader with respect to its quality highway transportation system.

An initial objective of the NQI was to cascade the concept and the intent of the national policy throughout the highway community. To accomplish this objective, four NQI Regional Quality Seminars targeted towards mid-level managers were conducted in the spring of 1993. In turn, State workshops were held (beginning late in 1993) to disseminate information on the NQI throughout the highway community.

As a further promotional effort, a second National seminar was held on November 14-15, 1995 for each organization to reaffirm its commitment to the principles of the NQI "National Policy on the Quality of Highways." The policy is included as appendix 1. A number of other specific activities have also taken place since the inception of the NQI. These activities are summarized under the various sections of this plan that describe past activities.

Although the NQI is a highway industry initiative, the steering committee anticipates that as this initiative becomes more successful within the highway industry, other modes of transportation will also be encouraged to start similar efforts to emphasize quality.

II. PURPOSE

A national emphasis on the quality of highways is needed, in part, to provide an answer, at some point in the future (e.g., reauthorization of the highway program), to the question: ***Is the quality of highways improving?*** In order to address this issue and to ensure that the quality of highways remains a focal point of all aspects of the highway program, a long-range plan that will provide direction, focus, and continuous emphasis on the NQI must be developed. The success of the policy depends on the capability of the highway community to quantify improvements in quality and the continued participation in the program by the entire industry. The purpose of the NQI long-range plan is to identify actions on the National level to be taken by the various segments of the highway community that will accomplish the objectives of the "National Policy on the Quality of Highways."

III. SCOPE

Typically, highway quality is thought of in terms of the construction product; however, in actuality there are many different components that have a bearing on the quality of that product. In addition to the constructed product, planning, design, operations, maintenance, safety, traffic impacts, environmental impacts, and economic impacts are factors to be considered when assessing the quality and performance of the highway facility. The scope of this long-range implementation plan and the strategy that was developed to achieve higher quality consciousness are primarily focused on the project components' aspects that have a significant bearing on the quality and performance of the highway facility and on the public's perception of that quality. This encompasses all facets of a highway project's life cycle, including pre-design, detail design, construction, maintenance, and operations.

IV. MISSION AND OBJECTIVES

The mission of the NQI is to improve the quality of our Nation's highways through cooperative partnerships, National emphasis, and local initiatives.

The goal of this plan is to implement the National Policy on the Quality of Highways through joint efforts to achieve the following objectives:

1) Promote and disseminate information on quality enhancement practices throughout the highway community.

2) Increase public awareness of quality improvement accomplishments and activities.

3) Promote and support technologies that enhance highway quality.

4) Widely recognize exemplary quality efforts.

5) Ensure continued National emphasis on the continuous quality improvement in the design, construction, and maintenance of highway facilities.

6) Promote customer focus and measurement of quality in the highway industry.

7) Promote and support joint education and training.

V. IMPLEMENTATION ACTIVITIES

The activities on the following pages have been adopted by the steering committee for future promotion and stewardship. As these activities are implemented, a detailed work plan—including roles and responsibilities, statements of work, schedules, and proposed funding levels and sources—will be developed for each objective. This long-range plan will be revised and updated periodically by the steering committee as appropriate.

ACTIVITY/NATIONAL POLICY PRINCIPLE CROSS REFERENCE

IMPLEMENTATION ACTIVITY	1	2	3	4	5	6
OBJECTIVE 1: Promote and Disseminate Information on Quality Enhancement Practices Throughout the Highway Community.						
1-A: Information exchange system	X	X		X		X
1-B: NQI videotape		X				
1-C: NQI newsletter		X				
OBJECTIVE 2: Increase Public Awareness of Quality Improvement Accomplishments and Activities.						
2-A: Maintain NQI presence on the internet	X	X				X
2-B: General press releases	X	X				X
2-C: Congressional communications		X				
OBJECTIVE 3: Promote and Support Technologies That Enhance Highway Quality.						
3-A: Promote quality improvement workshops	X	X		X	X	X
3-B: Support quality related research & development needs	X	X	X	X	X	X
3-C: NQI toolbox	X	X	X	X		X
OBJECTIVE 4: Widely Recognize Exemplary Quality Efforts.						
4-A: Present national quality award(s)			X		X	
OBJECTIVE 5: Ensure Continued National Emphasis on the Continuous Quality Improvement in the Design, Construction, and Maintenance of Highway Facilities.						
5-A: Sponsor national and regional NQI Seminars	X	X	X	X	X	X
5-B: Support State-level quality initiatives	X	X	X	X	X	X

OBJECTIVE 6:	Promote Customer Focus and Measurement of Quality in the Highway Industry.						
6-A:	Highway user survey	X	X		X	X	X
6-B:	Promote national highway quality quality measurement systems	X	X	X	X	X	X
OBJECTIVE 7:	Promote and Support Joint Education and Training						
7-A:	Recommend training efforts	X	X	X	X	X	X

NATIONAL POLICY PRINCIPLES

1. Proper design, construction specifications related to performance, adherence to specifications, use of quality materials, use of qualified personnel, and sufficient maintenance;

2. Constant improvement of highway engineering technology by increasing emphasis on cooperative research, implementation, and technology sharing;

3. Flexibility, coupled with responsibility, for designers, contractors, workers, and suppliers;

4. Adequate assurances of quality achievement in planning, design, and construction, by owner agencies;

5. Incentives that reward achievements and innovations in providing a demonstrated level of value added quality, and

6. Cooperative development of quality management systems and specifications between Federal, State, and local agencies, academia, and industry.

OBJECTIVE 1:
Promote and disseminate information on quality enhancement practices throughout the highway community.

Activity 1- A: INFORMATION EXCHANGE SYSTEM

Description: Develop an information management and exchange system that can be used to document and disseminate information on both successful and unsuccessful quality enhancement efforts.

Past Activities: The NQI commissioned a feasibility study that concluded there is widespread support for this concept and that the recommended mechanism be through the World-Wide Web (Internet) and supplemented through more traditional information sharing mechanisms. This activity, first identified in the first long-range plan, is currently being fulfilled through NCHRP Project 20-7, Task 80. Because of a similar effort conceived in the AASHTO Standing Committee on Quality (SCoQ), and because they had an existing database from which to draw information, the NQI Steering Committee voted to endorse the SCoQ as taking the lead role in this activity, provided their information gathering effort included all NQI member organizations and the NQI had representation in guiding the development of a system. A contract was awarded to the Texas Transportation Institute and a web site with a searchable database was developed (http://tti.tamu.edu/quality).

Personnel: Texas Transportation Institute

Estimated Costs: $50,000

Schedule: Operating system by late 1997

Tasks:

Task 1— Serve on NCHRP Panel and guide effort.
Task 2— All member organizations complete quality practices survey.
Task 3— Provide feedback on system as requested by NCHRP contractor.
Task 4— Determine if additional media is warranted (e.g. electronic bulletin board, published catalog, etc.).
Task 5— Market the system through activities associated with Objective 1.
Task 6— Identify a long-term operator for the system.

Monitoring: Monitor usage to determine if the selected medium is appropriate for the targeted users. Request feedback from system users.

Activity 1- B: NQI VIDEOTAPE

Description: Update the 12-minute videotape that generally describes the NQI genesis, activities, direction, and focus on the issue of quality in the highway industry. Include information of new activities such as the NQI Achievement Award and the NQI Highway User Survey. This videotape is intended for use within the highway community.

Past Activities: The West Virginia DOT previously produced a 12-minute videotape that was distributed to each State Steering Committee in 1992 for use in meetings and conferences.

Personnel: West Virginia Department of Transportation (WVDOT)

Estimated Costs: $30,000 (DP-89)

Schedule: Complete by 1997

Tasks:

Task 1— The WVDOT develops RFP and awards contract.
Task 2— Coordinate with a steering committee task force.
Task 3— Provide copies to all States and organizations.

Monitoring: The WVDOT will have primary monitoring responsibility for contract monitoring.

Activity 1- C: NQI NEWSLETTER

Description: Create a periodic newsletter to circulate within the highway community to highlight activities, direction, and focus of various quality issues.

Past Activities: There has not been a NQI Newsletter, but rather periodic letters have been sent to State Steering committees in the hope the information would be distributed.

Personnel: Consultant.

Estimated Costs: Unknown

Schedule: Continuous.

Tasks:

Task 1— Investigate securing space in other newsletters for periodic articles related to the NQI.
Task 2— Establish a process for obtaining articles.
Task 3— Investigate securing a consultant to publish and help distribute copies of an NQI Newsletter.

Monitoring: The steering committee will monitor articles and help guide the development of a newsletter.

OBJECTIVE 2:
Increase public awareness of quality improvement accomplishments and activities.

Activity 2-A: MAINTAIN NQI PRESENCE ON THE INTERNET

Description: Update and maintain the NQI Home Page (http://www.nqi.org) .

Past Activities: The NQI Home Page was developed "in-house" and first placed on the Department of Transportation's server. The home page is now maintained on the server of an FHWA consultant.

Personnel: Consultant

Estimated Costs: $5,000/year

Schedule: Ongoing, continuous effort.

Tasks:

Task 1— Have consultant produce a report on usage of the NQI Home Page.
Task 2— Encourage "links" from all NQI member organization's home pages.
Task 3— Investigate long-term maintenance issues.
Task 4— Publicize various documents, summaries, and announcements concerning the NQI on the NQI site.

Monitoring: Periodic reports on usage will be produced for the steering committee.

Activity 2- B: GENERAL PRESS RELEASES

Description: Issue or encourage the preparation of NQI-related press releases and articles that target both the highway industry as well as the National and local press on important events or issues.

Past Activities: Press releases and articles have been on an as-needed basis. There were a number of formal press releases issued under contract with FHWA for the first NQI Achievement Award in 1995.

Personnel: A steering committee task group will recommend a process for ensuring NQI-related press releases and articles are developed and transmitted to appropriate entities for publication.

Estimated Costs: $25,000 for marketing contract surrounding the NQI Achievement Award or through existing organizations' public relations departments. Other indirect costs to be absorbed by the editorial committee members' organizations.

Schedule: Continuous.

Tasks:

Task 1— Form a task group to recommend a process for developing and distributing press releases and articles.
Task 2— Activate the process.
Task 3— Integrate the process with other information-sharing activities.

Monitoring: Each organization notifies (copies) the steering committee of articles used. Monitor publications to determine the exposure being given to the NQI articles.

Activity 2- C: CONGRESSIONAL COMMUNICATIONS

Description: The NQI organizations will use opportunities to communicate with Congress about the objectives of the NQI or about the results of NQI-sponsored activities.

Past Activities: There have been several testimonies before Congress that included some coverage of the NQI. Pennsylvania Congressman Bud Shuster and Virginia Senator John Warner were speakers at the second NQI Conference.

Personnel: NQI Steering Committee.

Estimated Costs: None.

Schedule: As appropriate.

Tasks:

Task 1— Provide feedback reports to the NQI Secretary.
Task 2— Develop one page summary reports from newsletters and press releases to send to Congress.

Monitoring: The NQI Secretary will compile feedback reports and distribute them to the steering committee.

OBJECTIVE 3:
Promote and support technologies that enhance highway quality.

Activity 3-A: PROMOTE QUALITY IMPROVEMENT WORKSHOPS

Description: Support the development of a number of quality improvement workshops on various topics that address critical issues pertaining to quality enhancement. These workshops would help build consensus within the highway industry and would produce useful reference information or guidance as appropriate from a panel of subject matter experts.

Past Activities: An initial workshop was conducted on the subject of quality assurance specifications. The report produced as the result of this workshop eventually became part of the AASHTO Implementation Manual for Quality Assurance. A workshop has been conducted on the subject of technician training and certification, and a report was developed and distributed in 1997.

Personnel: Support consultant or DP-89 work order to State to facilitate nationally sponsored workshops. Participants will be from Federal, State, and local governments, academia, and industry as appropriate for the subject matter.

Estimated Costs: $50,000/workshop

Schedule: Ongoing, continuous effort.

Tasks:

Task 1— Steering committee identifies issues of national concern; encourages and supports quality improvement workshops in the planning, design, construction, and maintenance of highways.
Task 2— Issue contracts or work orders as needed for conducting workshops.
Task 3— Support workshops through participation.
Task 4— Publicize results and workshop proceedings.

Monitoring: Reports on "workshop proceedings" will be distributed to steering committee for their information.

Activity 3- B: SUPPORT QUALITY RELATED RESEARCH AND DEVELOPMENT NEEDS

Description: Provide continued emphasis on quality-related research and development needs. For example, those areas directly related to quality in the "Research and Development Program for Highway Construction Engineering Management" (Green Book) or the FHWA high-priority research program.

Past Activities: The NQI Steering Committee has recommended several research topics for consideration to various organizations. The steering committees has also had a couple of "research briefings" on subjects of concern of the steering committee.

Personnel: NQI Steering Committee. Periodically invite various research organizations to make presentations (approximately 2-day) on current activities, and periodically interact with various Transportation Research Board (TRB) committees as appropriate.

Estimated Costs: None

Schedule: Review research needs and activities on a biannual basis.

Tasks:

Task 1— Schedule briefing sessions in conjunction with an NQI Steering Committee meeting.
Task 2— Bi-annually review status of various activities and identify needs from "quality improvement workshops" (Activity 3-A).
Task 3— Promote and develop research needs statements as appropriate.

Monitoring: Periodic reviews and evaluation.

Activity 3- C: NQI "TOOLBOX"

Description: Review toolbox contents periodically; update and distribute as required.

Past Activities: The West Virginia Department of Transportation produced and distributed a toolbox of quality reference materials in 1993.

Personnel: West Virginia Department of Transportation

Estimated Costs: $32,000 (DP-89)

Schedule: Revise and redistribute in 1997.

Tasks:

Task 1— Solicit feedback from NQI organizations regarding contents of existing toolbox and suggestions for updated version.
Task 2— Produce updated toolboxs.
Task 3— Distribute toolboxs to State Steering Committees and NQI Member organizations.

Monitoring: West Virginia DOT will be responsible for day to day monitoring.

OBJECTIVE 4:
Widely recognize exemplary quality efforts.

Activity 4-A: PRESENT NATIONAL QUALITY AWARD(S)

Description: Present "Biennial National Quality Awards" for outstanding quality innovations and achievements within the highway industry.

Past Activities: The first NQI Achievement Award was presented during the 1995 NQI Conference. As first envisioned, another award would be created that is oriented toward process improvements rather than product oriented, as the NQI Achievement Award.

Personnel: NQI Steering Committee and Nomination Review Committee

Estimated Costs: $100,000 (Awards and travel for award recipients)

Schedule: At biennial National Conference

Tasks:

Task 1— Encourage each organization to nominate candidates that exemplify production of a quality project.
Task 2— Establish a task group to develop recommendations for the NQI Steering Committee on the award such as "short listing" award nominations, recommending award criteria, and process changes.
Task 3— Entire Steering Committee will make final selection on awards.
Task 4— Widely publicize all awards.
Task 5— Evaluate the need for additional awards or categories for the future.

Monitoring: Monitor the number of nominations being received for the award(s).

OBJECTIVE 5:
Ensure continued national emphasis on the continuous quality improvement in the design, construction, and maintenance of highway facilities.

Activity 5-A: Sponsor National and Regional NQI Seminars

Description: Hold additional National seminars to reaffirm the highway community's endorsement of a national quality policy and keep top management interest alive.

Past Activities: The first National NQI Conference was held on November 10, 1991 in Dallas/Ft. Worth, TX. The second National conference was held on November 14-15, 1995 in Washington, DC. Four regional NQI Conferences were held in the spring of 1992. These were held in Orlando, FL, Monticello, NY, Minneapolis, MN, and Phoenix, AZ.

Personnel: Consultant

Estimated Costs: $100,000 each

Schedule: Biennially for national conference and periodically for regional seminars.

Tasks:

Task 1— Review the status of the NQI activities to determine if additional national seminars and regional seminars are warranted. Re-emphasize the NQI Policy and endorse the long-range plan activities at a third National NQI Seminar to be held on November 13-14, 1997 in Salt Lake City, Utah.
Task 2— Assess the results of the regional and State seminars to identify emphasis areas and the target "customers" for additional seminars.
Task 3— Coordinate and sponsor seminars that are determined necessary.
Task 4— Market the seminar proceedings through "Objective 1" activities.

Monitoring: Determine subject matter coverage through various activities. Use evaluation forms from previous seminar(s) to design next seminar and to measure progress.

Activity 5- B: SUPPORT STATE-LEVEL QUALITY INITIATIVES

Description: Communicate with State-level steering committees and encourage development of State-level seminars and other initiatives.

Past Activities: Following the four regional NQI seminars in 1992, 49 States and the District of Columbia held State-level quality seminars as a kick-off of various quality programs within their States. There have been many excellent State-level initiatives to make improvements within the States.

Personnel: NQI Steering Committee

Estimated Costs: None

Schedule: On-going

Tasks:

Task 1— Continue ongoing communications with State Steering Committees.
Task 2— Support State initiatives through organizational participation and NQI Steering Committee representation as requested.
Task 3:— Summarize State accomplishments as reported by State Steering Committees.

Monitoring: Through normal communications process to be established.

OBJECTIVE 6:
Promote customer focus and measurement of quality in the highway industry.

Activity 6-A: HIGHWAY USER SURVEY

Description: Customer surveys are encouraged to determine our customers' opinions of the quality of the highways and to provide guidance and direction for NQI activities. Use this information to gauge if the quality of the highway system is changing in the opinion of the customer.

Past Activities: In 1995, the NQI Steering Committee commissioned through the FHWA a Nationwide survey of highway users. This survey was documented and a report has been widely distributed.

Personnel: Consultant

Estimated Costs: $150,000-$200,000 per survey

Schedule: Every 4 to 5 years

Tasks:

Task 1— The NQI Steering Committee encourages States to undertake statewide surveys .
Task 2— Obtain consultant to modify as necessary and conduct the survey and then compile the results.
Task 3— Presentation of results distributed.
Task 4— Adjust or fine-tune NQI activities to address needs identified by the survey. Input results of the survey into the various other activities, as appropriate.
Task 5— Evaluate the need for (and conduct) future customer surveys, as appropriate.

Monitoring: Ongoing monitoring by the steering committee.

Activity 6-B: PROMOTE NATIONAL HIGHWAY QUALITY MEASUREMENT SYSTEMS

Description: National quality measurement systems need to be initiated, expanded, or revised to adequately consider: 1) customer satisfaction of the traveling public, 2) sound engineering principles, and 3) economic analyses. Activity 5-A will provide input into these measurement systems. These measurement systems need to be established or expanded in order to quantify and accurately monitor quality of the highway network and address the basic question posed in the purpose of this long-range plan: ***Is the quality of highways improving?***

Past Activities: The issue of National measurement of quality has been addressed in many individual program areas, but has not been addressed in a consolidated manner. The Federal Highway Administration is currently engaged in a Government-wide effort to address measurement of results to comply with the Government Performance and Results Act.

Personnel: Consultant

Estimated Costs: To be determined

Schedule: To be determined

Tasks: To be determined

Monitoring: Will be determined based on further definition of this activity.

OBJECTIVE 7:
Promote and support joint education and training.

Activity 7-A: RECOMMEND TRAINING EFFORTS

Description: Investigate gaps in education and training and promote joint development and presentation of training. Support the development of technical and managerial training for all organizations and levels

Past Activities: The steering committee compiled a list of quality-related training courses within each organization.

Personnel: NQI Steering Committee

Estimated Costs: None

Schedule: Continuously

Tasks:

Task 1— Explore available training resources.
Task 2— Recommend joint training efforts and seek sponsorship.
Task 3— Encourage joint training, sharing, and dissemination of training materials.
Task 4— Promote and support general training on quality systems.

Monitoring: Periodic evaluation by the steering committee.

APPENDIX A
National Policy on the Quality of Highways

The National Transportation Policy charts a course for leading the United States' transportation system into the 21st century. The Nation's highway network is an essential element of our transportation infrastructure and its quality is critical to America's economic growth and its ability to compete in the world marketplace.

The United States is a world leader in providing quality highways to the customer, the highway user. To maintain this leadership role, this policy is intended to fulfill the requirements of the highway user by providing a durable, smooth, safe, aesthetically pleasing, environmentally sensitive, efficient, and economical highway system, in balance with other modes of transportation.

In support of these principles, therefore, the National Policy on the Quality of Highways is to make a continuing commitment for quality products, information, and services through:

* Proper design, construction specifications related to performance, adherence to specifications, use of quality materials, use of qualified personnel, and sufficient maintenance,

* Constant improvement of highway engineering technology by increasing emphasis on cooperative research, implementation, and technology sharing,

* Flexibility, coupled with responsibility, for designers, contractors, workers, and suppliers,

* Adequate assurances of quality achievement in planning, design, and construction, by owner agencies,

* Incentives that reward achievements and innovations in providing a demonstrated level of value-added quality, and

* Cooperative development of quality management systems and specifications between Federal, State, and local agencies, academia, and industry.

The development and preservation of a high-quality highway system requires a close partnership between all stakeholders; therefore, the undersigned organizations have cooperatively developed this national policy and will strive to fulfill its principles. In witness whereof, it is sealed and signed at Dallas/Fort Worth Airport, Texas this 10th day of November 1992 and is now reaffirmed in like manner this 15th day of November, 1995 in Alexandria, Virginia.

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