



NOV 03 2000

FINDING OF NO SIGNIFICANT IMPACT

To Interested Agencies, Officials, Public Interest Groups, and Individuals:

The Office of Pipeline Safety of the Research and Special Programs Administration of the U.S. Department of Transportation (OPS) and Region 6 of the U.S. Environmental Protection Agency (EPA) have performed an environmental assessment (EA) of a project proposed by Longhorn Partners Pipeline, L.P. (Longhorn). Issuance of this joint finding of no significant impact (FNSI) completes review of the proposal under the National Environmental Policy Act of 1969 (NEPA) and regulations implementing that Act.

OPS possesses statutory responsibility for ensuring the safe transportation of hazardous liquids by pipeline under the Pipeline Safety Law, 49 U.S.C. §60101 *et seq.* To that end, it has promulgated safety standards regulating the design, construction, operation and maintenance of hazardous liquid pipelines, currently codified at 49 C.F.R. Parts 194, 195, and 199. OPS regulations are intended to prevent spills and minimize adverse impacts when they occur. OPS periodically evaluates the operating practices and the physical condition of the pipelines it regulates and may take appropriate enforcement action against operators which fail to comply with applicable regulatory standards. There are important statutory constraints on OPS regulatory authority, however, including 49 U.S.C. §60104(e), which specifically prohibits it from prescribing pipeline routes. Requiring that an operator reroute its pipeline to avoid potential problems is thus not a regulatory option available to OPS.

OPS has been delegated responsibility for reviewing and approving facility response plans pipeline operators develop under Section 311(j)(5) of the Clean Water Act, 33 U.S.C. §1321(j) (5), as amended by the Oil Pollution Act of 1990. In this case, OPS participated in the NEPA analysis provided for in the settlement agreement and will rely on the mitigated FNSI in deciding whether to approve Longhorn's response plan. The EA underlying this FNSI may also be used by the Department of Defense in determining whether to grant Longhorn a right-of-way across Fort Bliss.

Although it possesses enforcement and cleanup authority over pipeline spills to surface waters, EPA has no direct authority to regulate the construction or operation of pipelines¹ and does not contemplate using the EA on which this FNSI is based in any future regulatory decision it may make. It is participating as a Joint Lead Agency here solely to bring its expertise in environmental issues and the NEPA process to the proposal's review.

BACKGROUND

In 1949 and 1950, Exxon Pipeline Company (EPC) constructed a pipeline to transport crude oil from Crane to Houston, Texas, a distance of approximately 450 miles. Few records are available reflecting earlier years, but during the last 29 years in which EPC operated the pipeline, it experienced 26 accidental releases. Shortly after idling the pipeline in 1995, EPC sold it to Longhorn, a limited liability partnership formed to transport refined petroleum products (primarily gasoline) from Gulf Coast refineries to El Paso, Texas.² To accomplish its purpose, Longhorn commenced construction of an extension of the old EPC pipeline from Crane to El Paso. The mainline portion of the system (Houston to El Paso) consists of 18 and 20-inch diameter pipe and is about 695 miles long. Longhorn also constructed a 28 mile lateral pipeline from Crane to Odessa and proposes to construct three smaller laterals in the El Paso area. The entire system, including pipe in the laterals, is about 731 miles long.

Before Longhorn completed construction of the system, private citizens and the Barton Springs--Edwards Aquifer Conservation District filed an action (Spiller v. Walker, Civil No. A-90-CA-255-SS (W.D. Tex.)) against Longhorn and various federal agencies, including the Federal Energy Regulatory Commission, Department of Defense, OPS, and EPA, alleging Longhorn should not be allowed to use the pipeline until the federal government prepared an environmental impact statement (EIS) under NEPA §102(2)(C), 42 U.S.C. §4332(2)(C). The City of Austin and the Lower Colorado River Authority (LCRA) intervened in that action as plaintiffs.

On August 25, 1998, the Federal District Court for the Western District of Texas issued an order preliminarily enjoining operation of the pipeline and ordering OPS and/or EPA to prepare an EIS. The court found OPS was required to prepare an EIS because its "extensive and intricate oversight

¹ EPA Region 6 has issued a national pollutant discharge elimination system general permit authorizing discharges of storm water from construction projects in Texas, an action exempt from NEPA requirements pursuant to Section 511(c)(1) of the Clean Water Act, 33 U.S.C. §1371(c)(1). Longhorn submitted notices of intent to obtain coverage under that general permit for storm water discharges associated with pipeline construction.

² El Paso is a staging area for pipeline shipments of gasoline further north, west and south and most gasoline currently used in and shipped from El Paso is now refined locally or in New Mexico. Lower Gulf Coast refining costs and use of the existing EPC infrastructure are factors Longhorn hopes will allow successful competition in the El Paso "gateway market" despite greater transport distances.

and approval of the Longhorn Pipeline's safety and emergency-response plan constitutes major Federal action significantly affecting the quality of the human environment." Slip Opinion at 29. The Court included EPA in the Order even though it found EPA was proposing no regulatory action requiring EIS preparation. Longhorn, OPS and EPA filed notices of appeal, but also entered negotiations with the plaintiffs that culminated in a settlement agreement in March 1999. Under the terms of the settlement agreement, OPS and EPA agreed to prepare, as Lead Agencies, an EA on the proposed pipeline project and, based on the EA, issue a finding of no significant impact or notice of intent to prepare an EIS. Longhorn agreed to fund third-party consulting services for preparation of that EA. The settlement agreement also included detailed scoping and public participation provisions that rendered the EA (and the process under which it was prepared) unusually thorough--more akin to an EIS than a typical EA.

After judicial approval of the settlement stipulation, representatives of the Lead Agencies attended a series of informal public meetings hosted by Longhorn at which opinions on the project and potential scope of the EA were expressed. The City of Austin hosted a similar meeting attended by over 1,000 individuals. Many commentators opposed the proposed project on the basis of environmental risks associated with accidental releases of product from the pipeline.

Subsequently, the Lead Agencies and their third-party contractor commenced preparation of a draft EA, employing an enhanced³ version of a relative risk model for pipelines developed by W. Kent Muhlbauer. Entry of pipeline information, historical data, and conservative default values to the model yielded numerical relative probability of failure (POF) scores for each of about 8,000 segments of the pipeline, based on their physical condition and susceptibility to the four general causes of pipeline failure, i.e., corrosion, operator error, design/construction defects, and outside force. Conservative assumptions were consistently employed to ensure that all contingencies were taken into account. This "pre-mitigation" assessment indicated the Longhorn pipeline, if operated as it had been historically, could be expected to experience a slightly higher failure rate than an "average" pipeline.

To provide Longhorn direction on mitigation plan development, the Lead Agencies identified and evaluated potential spill receptors along the proposed pipeline route and ranked them as "normal" (Tier 1), "sensitive" (Tier 2), or "hypersensitive" (Tier 3) based on factors such as proximity to population centers, drinking water supplies, and protected species habitat. They then established relative POF "target" scores for each tier in an effort to reduce the chance of a spill or leak in each segment of the line to a degree commensurate with the sensitivity of the area in which it was

³ The "standard" Muhlbauer relative risk model, as commonly used in the pipeline industry, uses assigned values to represent a pipeline's current condition and the environmental sensitivity of its surroundings. For purposes of the Longhorn project evaluation, Muhlbauer adjusted the model so it would accept actual data obtained from historical operations and testing, rendering its results more accurate when such data were available. He also eliminated input fields associated with consequence factors, sharply focusing the model on failure probability and allowing the Lead Agencies to more comprehensively assess receptor sensitivity using alternative means.

located. The targets approximated POF scores that would be achieved by new pipe in a benign environment (free of third party activities, highly corrosive soils, etc.) operated under good industry practices (Tier 3), by existing pipe in a benign environment operated under good industry practices (Tier 2), and by a somewhat better than average similar pipeline (Tier 1). Longhorn was requested to develop mitigation measures that would meet those risk reduction goals (as measured by the enhanced Muhlbauer model), paying particular attention to the specific threats to which each pipeline segment was exposed. Scores could be improved by providing new data to overcome default values, undertaking remedial construction, improving proposed operation and maintenance practices, or taking other measures to reduce risks. In response, Longhorn obtained new data through testing and inspection and developed a mitigation proposal which reduced relative POF to a level better than each assigned target.

When completed, the draft EA consisted of three volumes (including appendices) and was about 1200 pages in length. Among other things, it evaluated various alternatives to the proposed project, identifying the “no action” alternative as resumption of crude oil service in the former EPC portion of the pipeline between Crane and Houston and concluding that the mitigated gasoline pipeline would present less risk to the environment than such a resumption of crude oil service. One volume consisted of aerial depictions of the entire pipeline route, annotated to show the mitigation measures, tier designations, and relative POF scores that applied to each segment, providing the public a detailed look at proposals potentially affecting specific areas in which they were interested, e.g., neighborhoods and particular environmental amenities.

In response to a request for comments on the Draft EA, the Lead Agencies received over 6,000 written comments. Although many of those comments were form letters and postcards opposing the project on general grounds, others raised specific issues. In addition, comments were submitted at public meetings the Lead Agencies held in Houston, Austin, Fredericksburg, Bastrop, and El Paso, Texas. Most participants at the Houston and El Paso meetings supported the project, but those in Austin, Fredericksburg, and Bastrop were generally opposed to it and critical of the draft EA. Many were concerned about exposure of human resources, e.g., schools, homes, and health care facilities, to the potential effects of a product spill. Others expressed concerns on potential damage to natural resources, e.g., endangered species habitat and surface and subsurface water quality.

Consideration of comments resulted in a number of changes to the EA, including:

- Evaluating a different “no action” alternative in the final EA, i.e., non-use of the pipeline. The final EA also evaluates a modified form of the former “no action” alternative under which Longhorn would transport crude oil from El Paso and Odessa to Houston, the most likely use of the pipeline should Longhorn be unable to transport gasoline.
- Identifying wetlands. The final EA identifies wetlands that occur along the pipeline route and evaluates the potential effects spills might have on them.

- Adjusting tier assignment. The final EA's assignment of receptor sensitivity to portions of the pipeline route includes additional Tier 2 areas based on information commentors provided on specific resources.
- Completing studies. Studies Longhorn earlier offered to conduct as mitigation efforts are complete and summarized in an appendix to the final EA, providing a better basis for evaluation of some risks. One of those studies, which analyzes valve placement in the Pedernales River basin, supports installation of additional check valves to limit the amount of product which could exit the pipeline in a spill. Others, e.g., a scour study, recommend specific remedial actions and additional ongoing inspections. Longhorn's mitigation plan includes corresponding changes, i.e., proposals to install the additional valves and implement the recommendations of the completed studies.
- Performing additional modeling. Modeling of potential spills from line ruptures in the Pedernales River basin shows it infeasible to eliminate potential threats to Austin's drinking water supply if MTBE was in the spilled product. Longhorn's mitigation plan now prohibits use of the line for transport of petroleum products containing MTBE.
- Assessing residual risk. In the final EA, the Lead Agencies' relative POF assessment is supplemented with professional analysis and estimates of residual risk, i.e., the degree of risk remaining after mitigation.

The final EA also incorporates the final version of Longhorn's mitigation plan⁴ and an updated relative POF assessment reflecting changes to the plan. Some changes are only clarifications, but others are substantive revisions Longhorn proposes in response to concerns raised by the Lead Agencies, other interested parties, and/or public comment. Two mitigation measures many commentors felt appropriate are not included in Longhorn's mitigation plan, however.

The first of those measures is the "aquifer avoidance" route alternative. That alternative, originally developed by the Bureau of Land Management in connection with a 1987 supplemental EIS on the All American Pipeline project, largely avoids crossing the karst Edwards and Edwards-Trinity aquifers and minimizes potential spill/leak exposure of others. It also minimizes exposure of population centers. Constructing a pipeline along this alternative route would also result in adverse environmental impacts from construction activities and would expose new areas and populations to risks associated with pipeline failures. To follow that route, Longhorn would have to abandon much of the former EPC pipeline and construct around 319 miles of new pipeline, increasing the estimated "pre-mitigation" \$399 million capital costs of its project by \$299 million.

⁴ Longhorn submitted 21 distinct versions of its mitigation plan (and a supplement to its last version) during the environmental review process.

The second suggested measure Longhorn has not adopted is replacement of all pipe in the former EPC pipeline, which is now over fifty years old. Most of the pipe in that portion of Longhorn's system was manufactured using low frequency electronic resistance welding (ERW), a process considered state-of-the-art at the time, but which has since been linked to instances of longitudinal seam failure.⁵ Studies performed in the late 1980s recommend increased vigilance where low frequency ERW pipe is used and the relative risk model the Lead Agencies employed "penalizes" such pipe due to its increased susceptibility to certain failure mechanisms. Although Longhorn's mitigation plan was specifically crafted to address those mechanisms, some commentators asserted that replacement of the low frequency ERW pipe in the Houston to Crane portion of the pipeline was a necessary measure to reduce the risk of spills/leaks. Replacement of pipe in that portion of the line would reduce its POF,⁶ but would require 450 miles of new construction with a corresponding project capital cost increase.

Late in the EA preparation process, the Lead Agencies sought advice from the President's Council on Environmental Quality (CEQ)⁷ before making a decision on whether to issue a FNSI or notice of intent to prepare an EIS on the project. After reviewing a working draft of the Final EA, CEQ's Chairman recommended they issue a FNSI, opining that the EA process had reduced the project's environmental risks to a minimum, that remaining risks were not significant, and that NEPA's purposes and policies would be well served by issuance of a FNSI in this matter.

Issuance of today's FNSI completes NEPA review of the proposed project. Pursuant to the terms of the settlement agreement, Longhorn may not transport petroleum products in the pipeline for at least 30 days. In addition, Longhorn must complete certain mitigation measures prior to start-up.

ANALYSIS

There are no fixed standards in NEPA or CEQ's implementing regulations for deciding whether a proposed project's impacts are significant so as to require preparation of an EIS. 40 C.F.R.

⁵ As of the late 1980s, 41% (46,000 miles) of all interstate pipelines in the U.S. were constructed of low frequency ERW pipe.

⁶ That POF reduction would be only marginally attributable to potential differences in pipe manufacture. New installation involves new coatings, post-installation pressure testing, modern construction techniques, and other factors that reduce uncertainty and relative POF scores *vis a vis* an existing pipeline that has been unexamined in many years or on which construction and maintenance records are incomplete.

⁷ CEQ is the chief policy arm of the federal executive branch on NEPA's application. Its regulations are binding on all federal agencies engaged in NEPA review and, under appropriate circumstances, CEQ may recommend that the President of the United States direct a federal agency to change its position on a proposal. A CEQ recommendation is thus entitled to substantial deference from agencies engaged in NEPA review.

§1508.27 requires that agencies consider a proposed project's "context" and "intensity" in assessing significance, and leaves it to the Lead Agencies best professional judgment to determine whether impacts are significant. Routine pipeline operations pose few environmental problems, but unintentional spills and leaks are generally capable of causing substantial harm. Although no federal agency proposes to authorize such accidental releases, the EA is thus largely devoted to examining risks posed by potential spills and leaks from the Longhorn pipeline, taking a hard look at their potential causes, effects, means of avoiding them, and means of minimizing environmental harm should they occur. The Lead Agencies focused their significance analysis on the risk that such unintended releases pose to the environment, closely examining (1) the probability of releases and (2) the degree of environmental harm which could result from a release. Even potentially catastrophic consequences may not be significant if they have a very low probability of occurrence. Nor are common occurrences significant if they cause little or no harm.

The Lead Agencies and their multi-disciplinary consulting team evaluated failure probabilities and potential consequences from several distinct, but interrelated, perspectives. First, they applied their judgment to determine whether Longhorn's mitigation plan effectively and comprehensively addresses the four causes of pipeline failure and minimizes the possible consequences of failure. Second, they assessed residual risks both qualitatively and quantitatively. Based on these approaches the Lead Agencies now find the project has no significant environmental impact warranting EIS preparation. Moreover, the purposes and goals of NEPA are well served by issuance of a FNSI in this case.

Measures to Address Risk

The EA in this matter is far more than a generic look which might apply to any pipeline. Use of the enhanced Muhlbauer relative risk model provided a hard look at the Longhorn pipeline's specific susceptibility to the four causes of pipeline failure over its entire length and the tiering effort with which the Lead Agencies assigned risk reduction "targets" ensured Longhorn would propose mitigation measures suited to the vulnerabilities of specific areas. As a direct result of that process, Longhorn's final mitigation plan contains 40 specific mitigation measures (and unnumbered operations and maintenance practices), some of which it has already implemented. They are an overlapping mix of physical modifications to the pipeline and operational controls tailored to the environmental sensitivity of receptors along the pipeline's entire route which reduce spill/leak risks to a minimum by comprehensively and redundantly addressing each of the four potential causes of pipeline failure along its entire route. Measures designed to avoid spills/leaks include:

- Increased patrol frequency and monitoring along the pipeline route,
- Extensive public information and education commitments to reduce or eliminate potential damage from third-party excavation,
- Enhanced corrosion control activities,

- New and stronger pipe, additional burial depths, and concrete caps where the pipeline crosses the Barton Springs recharge and contributing zones,
- Additional burial depth and/or protective barriers (caps) in other selected areas of sensitivity,
- Periodic integrity verifications including hydrostatic testing and in line inspections focusing on low frequency ERW pipe failure susceptibilities at conservative frequencies established in accordance with an approved Operational Reliability Assessment,
- Surge pressure limitations more stringent than normally applied in the industry,
- Performance of detailed studies on certain rare pipeline failure mechanisms and a commitment to comply with the recommendations, if any, of those studies, and
- Annual reviews and audits of the pipeline operation with publication of findings on Longhorn's website.

Given unforeseeable future events, limitations on technology, and the vagaries of human behavior, no pipeline of substantial length can be rendered completely free of failure risks, however, and Longhorn's mitigation and response plans thus also contain provisions to minimize harm should a failure occur. Response measures of the plan include:

- Enhanced leak detection capabilities,
- Enhanced emergency planning efforts,
- Spill response centers located to minimize response time (LaPorte, Houston, Austin, San Antonio, Midland/Odessa, and El Paso),
- No transport of products containing MTBE (a gasoline additive that is highly soluble and difficult to remove from water) in other than trace amounts,
- Installation of additional check and block valves in the Pedernales River basin (a regional water supply) to limit the quantity of product which could be released from a pipeline rupture,
- Pipeline shut down when flow in the Pedernales River is at 100,000 cubic feet per second or higher, and
- Secondary containment where the pipeline crosses the Barton Springs recharge and contributing zones.

Longhorn's mitigation plan also contains measures to ensure the pipeline retains its integrity as it is exposed to operational stress and changing conditions. Consistent with the relative risk assessment approach the Lead Agencies employed in evaluating Longhorn's proposal, the plan includes measures specifically designed to fully address potential failure mechanisms related to pipe age, including measures addressing mechanisms associated with the low frequency ERW pipe in the former EPC portion of the system. Future conditions that may threaten pipe integrity will be monitored and pipe will be repaired or replaced as appropriate throughout the life of the proposed project in accordance with a system integrity plan (SIP), which is designed to identify, assess, and manage factors, including pipe condition, that could lead to a future release.

Like the Lead Agencies' relative risk assessment, the SIP focuses on the four causes of pipeline failure (corrosion, operator error, design/construction defects, and outside force) and assigns priorities consistent with the sensitivity of local receptors, e.g., population density, drinking water supplies, and recreational areas. An important feature of the SIP is an operational reliability assessment (ORA) Longhorn will perform at least yearly to provide a technical assessment of the SIP's effectiveness. Events that could lead to adjustments in ORA frequency include new inspection or test data affecting previous estimates, a significant change in pipeline operation, a pipeline accident, a significant industry or government advisory regarding pipeline integrity, or new or enhanced technologies that could produce significant reductions in pipeline risk. To identify potential problems and establish the frequency of integrity re-verification through in line inspection (ILI), the ORA uses the results of previous integrity verifications, conservatively applied crack-growth and corrosion-rate calculations, information on changes in operations, environmental changes along the pipeline route, root cause analysis results, and other relevant information. The ORA focuses substantially on low frequency ERW pipe failure mechanisms through continuous monitoring of pressure cycles and application of advanced fatigue and fracture mechanics calculations.

As part of the ORA, Longhorn will run several types of ILI tools with overlapping capabilities on the EPC portion of the system. Within 3 months of start-up, Longhorn will run a high resolution magnetic flux leakage (MFL) tool (effective in detecting and characterizing corrosion and outside force damage) on the former EPC portion of the system. Within three years of startup, or sooner if indicated by the ORA, Longhorn will run a transverse field magnetic flux tool (effective in detecting cracks not readily detectable with the MFL tool, especially in the ERW longitudinal weld seam). Within five years of startup, or sooner if indicated by the ORA, Longhorn will run an ultrasonic wall measurement tool (effective in detecting laminations, wall loss, and material defects). Thereafter, Longhorn will run "smart geometry" tools (or an equivalent or superior tool) at least every three years throughout the life of the project. The ORA will determine which tool should be used in these subsequent runs and may require more frequent runs. Collectively, this ILI protocol will obtain sufficient data to enable Longhorn to replace or repair pipe in time to avoid failures due to any pipe condition that develops over time.⁸

⁸ ILI cannot be performed and operational pressure data cannot be obtained until the pipeline is in operation. Accordingly, the ORA will use estimated values for the first few months of pipeline operation. Recent hydrostatic testing and repairs ensure pipeline integrity during this

The SIP assures that Longhorn will continue mitigation efforts throughout the life of its project and that those efforts will be rationally directed to future risks, but it is not immutable. To enable Longhorn sufficient flexibility to upgrade the safety of its pipeline, the SIP and other features of the operations and maintenance manual in which its mitigation measures are codified for enforcement purposes may be modified in the future. In contrast to normal practice, however, Longhorn must obtain OPS approval prior to such amendment and must provide notice to the public (*via* website posting) and to the cities of Houston, Austin and El Paso as well as LCRA if and when it seeks OPS approval. This unusual procedure will afford OPS opportunity to consider the views of interested entities prior to acting on amendment requests.

The combination of mitigation measures Longhorn now proffers greatly exceeds common practice in the pipeline industry and is without precedent in the experience of OPS and the pipeline experts on the Lead Agencies' consulting team. The efficacy of those measures and the thoroughness with which they address the four causes of pipeline failure is amply supported by industry experience and is reflected by post-mitigation POF scores. If implemented, they should render Longhorn's pipeline among the safest in the nation and dramatically safer than the minimum regulatory threshold established by OPS regulations.

Residual Risk

The issue for decision is whether risks have been mitigated below the level of significance. In the final analysis, this is a qualitative decision which can only be rendered through the application of the best professional judgment of the Lead Agencies and their multi-disciplinary contract support team. Based on their engineering analysis of the probability of failure and their interdisciplinary analyses of the consequences of any future spill, they concluded that the residual risk of environmental harm from the pipeline as mitigated is not significant and does not warrant preparation of an EIS.

The Lead Agencies have also developed rough and conservative numerical estimates of residual risk probabilities and published them in Appendix 9B to the Final EA. Standard failure probability curves commonly applied to engineered systems suggest these residual risk estimates are conservative and spill occurrence records moreover suggest the very low spill frequencies predicted for the mitigated Longhorn system are achievable and have in fact been achieved by pipelines of similar length operated under less rigorous protocols.

initial period as does a Longhorn commitment to restrict operating pressures to 88% of the maximum pressure for which the line is designed.

The Lead Agencies estimate there will be about two or three product spills⁹ over the projected fifty year life of the mitigated pipeline, only one of which will exceed the “reportable quantity” of 50 barrels. The EA’s analysis of estimated impacts that spills may pose to various environmental amenities need not be repeated here, but a brief summary of several on which the public expressed substantial concern is warranted.

Surface Water Contamination. The pipeline crosses numerous rivers and streams (and associated wetlands) in ten major river basins. In addition, there are 857 palustrine wetlands in close enough proximity to be potentially affected by a nearby spill. Many of these surface waters provide valuable habitat for aquatic and aquatic-dependent life and significant opportunities for recreational use. Potential contamination of such a surface water is by far the greatest residual risk the mitigated pipeline poses. The Lead Agencies estimate there is about an 8% chance (as compared to over 90% without mitigation) that a spill from the Longhorn pipeline will at least once contaminate a recreational stream and about a 5% chance (16% without mitigation) it will contaminate a wetland. These are overall risk estimates that apply to the whole length of the pipeline; the chances that a specific river or stream near any given 2500 foot segment of the pipeline will be contaminated is an estimated 0.006% and that a specific wetland in proximity to such a segment will be contaminated an estimated 0.005%.

For analytical purposes, “contamination” means sufficient product would reach a surface water to cause a visible sheen on its surface, but the actual extent of contamination would largely depend on the amount of product reaching the water, flow conditions at the time of the release, and effectiveness of response efforts. The effects of smaller spills or a large spill to a stream with little or no flow at the time of release would generally be confined to a limited reach near the point at which the product entered it, but a larger spill to a river with higher flow could affect aquatic life and recreational uses several miles downstream. Given the volatile nature of gasoline and an adequate response action, however, even a fairly large spill of product would be unlikely to cause long-term environmental harm.

Drinking Water Contamination. Many commentors on the draft EA expressed concern over potential contamination of public drinking water supplies. The chance that such a drinking water supply, either surface or subsurface, will be contaminated by a spill from the pipeline over the life of the project is extremely low, estimated at about 0.3% (over 20% without mitigation). Moreover, Longhorn has committed to ground water remediation and/or providing an alternate drinking water supply should its pipeline operations contaminate a private or public well and has obtained \$15 million of insurance for that purpose.

Even with insurance, Longhorn’s resources might well prove inadequate should a spill from the pipeline substantially contaminate Lake Travis, the drinking water supply for the City of Austin

⁹ This spill frequency estimate does not include minor leaks at pump and valve stations. Such leaks are generally small, confined to the facility site, quickly discovered, and soon remedied.

and smaller communities such as Lago Vista and Lakeway.¹⁰ Longhorn will thus limit the amount of product which could be released to waters in the Pedernales River basin through installation of strategically placed valves. Except in exceptional flood events, gasoline from a “worst case” spill would volatilize before it reached Lake Travis. To guard against mishaps during those rare flood events, Longhorn will shut its pipeline down whenever flow in the Pedernales is 100,000 cubic feet per second or greater. The estimated probability for contaminating any Lake Travis water supply is 0.02% and much lower for contaminating Austin’s drinking water.

Barton Springs Contamination. Numerous commentors expressed concern over the potential effects of spills and leaks in the Barton Springs recharge and contributing zone, an area which is unusually sensitive to contamination and on which the fate of the endangered Barton Springs salamander depends. One commentor at the Austin public meeting even submitted a rock from his backyard for the record, providing graphic evidence of the highly porous nature of the limestone in the recharge zone (which could enable rapid transport of a spill through this portion of the Edwards Aquifer, rendering effective response and remediation efforts difficult). As an outgrowth of consultation with the U.S. Fish & Wildlife Service, Longhorn now proposes very extensive mitigation for pipeline traversing the Barton Springs recharge and contributing zones (approximately 18 miles). It includes installation of higher strength pipe, installation of a concrete cap above the pipeline, installation of an 8 mile subsurface hydrocarbon sensing cable, and a sealed trench design providing secondary containment of potential spills or leaks. Given that extraordinary commitment, the chance of a release which might contaminate the aquifer is an estimated 0.02%.

Death or Injury. Another frequently expressed public concern is the risk of personal or injury or death associated with a flash fire (frequently, but generally incorrectly, termed an “explosion”) fueled by a ruptured pipeline. Fires are associated with only 6% of gasoline pipeline spills and the mitigated pipeline poses an estimated chance of only 0.5% (13.1% without mitigation) that one or more deaths (including deaths of pipeline workers and response team members) will occur in connection with a release over the 50 year project life. At an estimated 2.3% (46.9% without mitigation), the risk of injury is somewhat higher.

The risk of death or injury to any specific individual, home, school, health care facility, or other sensitive human resource along the pipeline route is much lower. There is only an estimated 0.00036% (less than 1 in 250,000) chance that one or more deaths will occur in any given 2500-foot segment of the pipeline and the chance that it will occur in a specific location that would lethally affect some specific resource is presumably smaller.

¹⁰ Longhorn engaged in extensive discussions and negotiation with LCRA on mitigation in the Pedernales River watershed, an effort the Lead Agencies and their contractor supported with objective modeling efforts and technical advice. Although those negotiation ended in impasse, Longhorn’s mitigation plan nevertheless includes some features suggested by its discussions with LCRA.

Area Risk. These numerical estimates do not reflect incidental reductions in risks that other pipelines pose to the same environmental amenities. The Longhorn pipeline is located in a corridor it shares with 14 other hazardous liquids pipelines in the Houston area and two others closely parallel most of its remaining route. The Longhorn pipeline will thus pose only incremental spill/leak risks along its route, but some of its mitigation measures will likely reduce the risk of releases and consequential damage from the other pipelines. The public education efforts Longhorn will undertake to avoid third party damage, for instance, should also reduce the risk of third party damage to other nearby pipelines. Similarly, frequent patrols of the Longhorn right of way may reasonably be expected to result in detection of third party activity which might damage those other pipelines and result in earlier detection of leaks or spills from those other pipelines.

This incidental risk reduction is qualitative as well as quantitative because those other pipelines carry products other than gasoline (crude oil and natural gas liquids) and the environmental risks they pose thus differ from risks associated with the Longhorn pipeline. If Longhorn's efforts result in avoidance of third party damage to the adjacent crude oil pipeline, the resulting reduction in the risk of long term surface water contamination might even be greater than the residual risk Longhorn's own highly mitigated gasoline pipeline poses to the same resource. From the standpoint of potential death or injury to people, this area risk reduction may be particularly important in the case of adjacent pipelines carrying commodities more flammable than gasoline, i.e. natural gas liquids and, in the Houston area, propane. The Lead Agencies have not assessed specific risks posed by adjacent pipelines quantitatively. It is nevertheless reasonable to conclude that risks associated with those other pipelines will in fact be diminished by operation of Longhorn's pipeline, offsetting its residual risk to some degree and possibly negating it altogether.

Environmental Justice. The Lead Agencies performed an Environmental Justice analysis under Presidential Executive Order 12898 and its accompanying presidential memorandum. A major focus of the analysis was whether the risks of the pipeline would have a disproportionately high and adverse effect on minority or low-income populations. Ultimately, this evaluation addressed both whether the proposed project poses risks to the minority or low-income populations that are disproportionately high and whether the risks to minority or low-income populations are adverse. Because the risks to minority or low-income populations are not significant (as employed by NEPA) and do not appreciably exceed the risks to other populations, for these two reasons, there are no disproportionately high and adverse risks.

The Lead Agencies focused their analysis on two populations of potential environmental justice concern, those in Harris County and those in Travis County. The Lead Agencies' pre-mitigation relative risk assessment indicated the pipeline had a greater POF in a one low income and minority community in Harris County than in wealthier non-minority communities in Harris County. That disparate risk was partly attributable to historical deficiencies in EPC's maintenance activities in the low income and minority community and partly to a higher population density (resulting in a greater POF due to outside force) in that community. Longhorn's mitigation plan eliminates that disparity and, in fact, the pipeline in that area now has a lower POF (and a higher relative risk score) than in non-minority areas in Harris County.

As a result of mitigation measures Longhorn proposes to protect Barton Springs and its endangered salamanders, however, potential environmental justice concerns arise in Travis County. The extraordinary measures Longhorn developed during consultation with the U.S. Fish and Wildlife Service reduce relative POF in the recharge and contributing zones so much that it creates a relative disparity between the POF residents of that area face and the POF faced by low income and minority residents living near an adjacent portion of the pipeline. However, the level of risk faced by these low-income and minority residents is not appreciably different from the level of risk faced by the average populated segment of the pipeline. Thus, the population of potential environmental justice concern in Travis County turns out to receive a level of protection comparable to the higher income, non-minority populations in Harris County and elsewhere along the pipeline. Taking all available information into account, there is no disproportionate impact here. Moreover, the estimated probability of a pipeline failure in that low income/minority area during the 50-year project life is still very low and not significant.

In sum, the residual environmental risks of Longhorn's mitigated proposal will have no significant impacts. They are not only minimal in an absolute sense, but are far lower than risks normally associated with operation of similar pipelines and far lower than similar risks much of the same environment faced over the fifty years EPC operated the Houston to Crane segment. They add no large incremental risk to the overall risks of pipeline failure along most of the pipeline's route and Longhorn's mitigation measures may even substantially reduce some pre-existing risks.

NEPA's Goals and Purposes

NEPA's goals and purposes provide further support for finding the minimal residual risks associated with Longhorn's proposal do not merit preparation of an EIS. NEPA §102(2)(C) requires preparation of an EIS on federal actions which "significantly affect the quality of the human environment," a process which can take several years to complete. After a public scoping process to identify issues for analysis in the EIS, the action agency generally prepares a draft EIS and circulates it to the public as well as to potentially interested federal, state, and local agencies for written comment. Frequently, one or more public hearings are also conducted to obtain comments from the public. Following consideration of comments, the action agency circulates a final EIS responding to substantive comments and prepares a Record of Decision (ROD) explaining how it resolved issues and balanced environmental effects, the agency's mission, and other relevant factors. Among other things, a ROD must "state whether all practicable means to avoid or reduce environmental harm from the alternative selected have been adopted and, if not, why they were not." 40 C.F.R. §1505.2(c). Although action agencies using the EIS process must thus consider mitigation measures, neither NEPA nor implementing federal regulations require that such measures be adopted, even if significant adverse environmental effects are likely. Moreover, an agency's authority to require mitigation is generally limited by the scope of its organic statutory authority, a constraint which sometimes renders it impracticable to avoid environmental harm. Faced with such choices, action agencies sometimes proceed with projects that are likely to have significant adverse effects after completing the EIS process.

EA review is normally a shorter NEPA process. An EA must take a “hard look” at the potential effects of an action so the action agency may decide whether they are “significant” and thus warrant an EIS. A brief (generally 10 to 15 pages) EA and FONSI are prepared and circulated for comment by other federal, state, and local agencies with regulatory authority over or expertise in the action at issue and/or its effects. Public participation, if any, is sometimes limited to receipt of written comments from individuals on a project mailing list. In contrast to an EIS, an EA provides an action agency no record basis for accepting “significant” environmental effects.

To avoid the time and effort associated with EIS preparation, federal agencies and the project proponents they regulate have over time developed a “mitigated FONSI” concept. In CEQ, “The National Environmental Policy Act—A Study of Its Effectiveness After Twenty-five Years,” pp. 19-20 (January 1997), CEQ described the potential benefits and detriments of reliance on that concept:

[A]...significant trend is that of agencies increasingly identifying and proposing measures to mitigate adverse effects of proposed actions during the preparation of EAs. While preparing EAs, agencies often discover impacts that are “significant,” which would require preparation of an EIS. Agencies may then propose measures to mitigate those environmental effects. If an agency finds that such mitigation will prevent a project from having significant impacts on the environment, the agency can then conclude the NEPA process by issuing a FONSI, rather than preparing an EIS. The result is a “mitigated FONSI.” The 1992 CEQ survey and informal opinions of U.S. EPA officials responsible for reviewing NEPA analyses indicate an increase in the number of mitigated FONSI.

While mitigated FONSI are a good way to integrate NEPA into planning, some Study participants felt that not all EAs resulting in mitigated FONSI are meeting the spirit and intent of NEPA. When the EIS process is viewed as merely a compliance requirement rather than a tool to improve decision-making, mitigated FONSI may be used simply to prevent the time and expense of the more in-depth analysis required by an EIS. The result is likely to be less rigorous scientific analysis, little or no public involvement, and consideration of fewer alternatives, all of which are at the very core of NEPA’s strengths. Moreover, not all agencies that commit to mitigation monitor to determine whether the mitigation was actually implemented or whether it was effective.

An environmental benefit associated with “mitigated FONSI” is the degree of mitigation they encourage in licensing and approval situations. To avoid the expense and delay associated with EISs, applicants may often voluntarily proffer more mitigation than an action agency would or could require after preparation and consideration of an EIS, even though an action agency cannot directly compel an applicant to adopt mitigation in the EA process. The action agency may generally enforce the mitigation commitment because the commitment has been incorporated in some otherwise enforceable document or because the agency determines that the failure to adhere

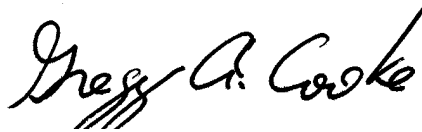
to the mitigation commitment is a basis for exercising its authority to revoke or suspend its license or approval.¹¹U.S.C. §60121. Also, OPS may exercise its authority to require changes to the response plan as a condition of its continued approval pursuant to 49 C.F.R. Part 194.

The benefits of mitigated FNSIs are present here with none of the drawbacks CEQ noted in its 1997 report. In the unique circumstances underlying the Longhorn EA process, preparation of an EIS would be unlikely to yield appreciable benefits or provide additional useful information for OPS to consider in reviewing Longhorn's spill response plan. The EA is atypical in that it mimics an EIS in form, content, and preparation process. The scientific rigor and conservatism with which it analyzes the risks of a proposed pipeline operation is, in the opinion of the Lead Agencies, unprecedented in NEPA review. An EIS would take no harder look at the potential consequences of spills or leaks from Longhorn's proposal. Nor is it likely the EIS process would result in discovery and consideration of additional reasonable alternatives or in more robust public participation.

Furthermore, EIS preparation would be unlikely to result in a safer pipeline. The mitigation measures Longhorn will implement if a FNSI is issued will minimize the potential risks of its project to an insignificant level. Because of its thorough nature and the process under which it was prepared, the Longhorn EA has resulted in greater mitigation than would likely result from the EIS process. "NEPA's purpose is not to generate paperwork—even excellent paperwork—but to foster excellent action." 40 C.F.R. §1500.1(c). Here, that purpose is best served by issuance of this FNSI.

DECISION

OPS approval of the Spill Response Plan submitted by Longhorn Partners Pipeline, L.P. will not significantly affect the quality of the human environment. Accordingly, no EIS need be prepared on that action.



Gregg A. Cooke
Regional Administrator
EPA Region 6

¹¹ Both mechanisms are available here because Longhorn has incorporated mitigation commitments in its Operations and Maintenance Manual, a document OPS may enforce pursuant to 49 C.F.R. §195.401(a). Interested citizens may also have enforcement rights pursuant to 49 U.S.C. §60121. Also, OPS may exercise its authority to require changes to the response plan as a condition of its continued approval pursuant to 49 C.F.R. Part 194.



Kelley S. Coyner

Kelley S. Coyner
Administrator
Research and Special Programs Administration