UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 6
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Dallas, TX 75202-2733

October 24, 2013

Colonel Richard L Hansen
District Commander
U.S. Army Corps of Engineers
New Orleans District
P.O. Box 60267
New Orleans, LA 70160-0267

Dear Colonel Hansen:

In accordance with our responsibilities under Section 309 of the Clean Air Act, the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations for implementing NEPA, and Section 404 of the Clean Water Act (CWA), the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, has completed its review of the US Army Corps of Engineers' (Corps) West Shore Lake Pontchartrain (WSLP) Hurricane and Storm Damage Risk Reduction Study Integrated Draft Feasibility Report and Environmental Impact Statement (Draft EIS). The Corps examines potential solutions to reduce damage from hurricane and tropical storm surge for residents in St. Charles, St. John the Baptist, and St. James Parishes, Louisiana, and identifies a tentatively selected plan (TSP).

Based on our review, the EPA is rating the Draft EIS as **"EC-2" (Environmental Concerns - Insufficient Information**[1]). While EPA supports the Corps' new SMART planning process as a means to expedite and focus the planning and review process for water resources projects, we believe that additional information should have been provided in the Draft EIS.

We appreciate the Corps' efforts to streamline the planning and review process, such as the Corps' SMART planning process, however EPA believes there is important information lacking in the Draft EIS. Using this process, the Corps has integrated the environmental analysis in a shortened draft Feasibility Report and EIS. We believe the Corps can use this approach to provide concise, accessible NEPA documents that succinctly disclose the potentially significant impacts of project alternatives. EISs that are more readable can both improve the decision making process and help inform and engage the affected public. With regard to this Draft EIS, our specific concerns focus on the nature and extent of the direct, indirect and cumulative adverse environmental impacts associated with the TSP, Alternative C, and the lack of information in the Draft EIS assessing those effects. The Draft EIS also does not effectively assess the potential environmental impacts of alternative levee alignments. Such information is essential for making an informed decision regarding the environmental acceptability of the alternatives under consideration. Using the SMART planning approach, the Corps is selecting a

[1] Please see http://www.epa.gov/compliance/nepa/comments/ratings.html for more information on EPA's rating system.

preferred alternative prior to conducting sufficient environmental impact assessment on other reasonable options

The EPA recognizes the vulnerability of the WSLP study area to storm surge flooding and supports implementation of hurricane risk reduction measures in the WSLP study area. We are also committed to working with you and other stakeholders to restore the Louisiana's coastal ecosystem and ensuring its vibrant environmental and economic future. However, as you move toward a final decision for this project, EPA believes it is essential that the planning effort consider more fully the means to avoid, minimize, and mitigate environmental impacts, particularly with respect to coastal wetlands.

As currently proposed, the proposed levee would enclose over 16 square miles of wetlands, and the Draft EIS provides limited information on how that enclosure will affect the functions and values of these wetlands. While the Draft EIS indicates that the levee would be constructed to maintain hydrologic connectivity between the enclosed wetlands and the surrounding swamps, and Lakes Maurepas and Pontchartrain, detailed information on this critical project feature is not provided. Instead, the Draft EIS only provides a general statement that hydrologic connectivity would be maintained by constructing culverts with sluice gates in the new levee to join with existing culverts under Interstate 10, with no supporting detailed information on the locations and design of these new culverts. The Draft EIS also reports that preliminary modeling shows only "minimal changes to flows" (p. 4-14), with no additional details on how that modeling was conducted or the results (although the Draft EIS does present the results for modeling at one location, showing a 25% reduction in flows (p. 4-1)). EPA believes it is essential that the Final EIS more fully describe and demonstrate how hydrologic connectivity will be maintained. Moreover, the Final EIS should include an assessment of the potential for relative sea level rise to result in an increase in the closure frequency of the gates and culverts. Other Corps levee studies in Louisiana have shown that such increased frequency of closure can convert an open levee system into one that is increasingly closed, resulting in potentially significant adverse environmental impacts.

The EPA is also concerned that the Draft EIS does not consider measures to restrict development on wetlands enclosed behind the levees. The Feasibility Report indicates that Alternative C was tentatively selected, in part because these enclosed wetlands would reduce the residual flood risks due to floodwater overtopping the levee. This would allow floodwaters to fill these wetlands first before inundating populated areas. Considering this concern, EPA recommends the purchase of non-development easements and/or the implementation of local flood zoning ordinances to limit development in these areas. Moreover, the Draft EIS does not provide information regarding alternative locations for the source of the levee-building material should the primary source not be sufficient. EPA recommends additional information regarding alternative borrow sites, as well as the development of site selection criteria to ensure that sites with wetlands and/or bottomland hardwoods are not used. Finally, EPA is concerned that the Draft EIS provides limited information regarding potential mitigation measures to compensate for wetland losses, and does not provide information to demonstrate compliance with the Clean Water Act Section 404(b)(1) Guidelines (especially the Guidelines' requirements that proposed discharges of dredged or fill material must be the least environmentally damaging practicable alternative).

EPA has enclosed detailed comments on these and other issues that we hope will assist you in your continued efforts to address the important procedural and environmental issues surrounding this proposed project. EPA believes its concerns about the project's potential impacts and the analysis of impacts can be resolved in a timely manner and we look forward to working with you collaboratively on these important issues.

Please send our office one copy of the Final EIS and a web link or CD when it is filed electronically with EPA through e-NEPA. If you have any questions, please contact me at 214-665-8126 or my staff Rhonda Smith of my office at 214-665-8006 or by e-mail at smith.rhonda@epa.gov.

Sincerely,

Debra A. Griffin
Associate Director
Compliance Assurance and
Enforcement Division

Enclosure

DETAILED COMMENTS
ON THE
WEST SHORE LAKE PONTCHARTRAIN HURRICANE STORM DAMAGE RISK REDUCTION STUDY
INTEGRATED DRAFT FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT

CLEAN WATER ACT SECTION 404(B)(1) GUIDELINES

The Corps has identified Alternative C as the tentatively selected plan (TSP) prior to determining whether it complies with the Clean Water Act Section 404(b)(1) Guidelines (Guidelines). The Guidelines require that discharges of dredged or fill material be the least environmentally damaging practicable alternative. However, based on information in the Draft EIS, Alternative A appears to be significantly less environmentally damaging than Alternative C. Alternative A would result in direct impacts, i.e., filling to create the new levee, to approximately 376.55 acres of wetlands, whereas Alternative C would have direct impacts to 775.13 acres of wetlands. Alternative C also has a substantially greater potential for indirect wetland impacts. Alternative A would enclose approximately 5 square miles of wetlands, whereas Alternative C would enclose approximately 16 square miles of wetlands. Alternative A provides annual benefits equivalent to Alternative C and protects the same number of properties, the same communities, and the same length of highway. According to Table 3-3, the estimated implementation costs of these alternatives are roughly equal. Alternative A would cost approximately $887.6 million, whereas Alternative C would cost $880.9 million. At least in terms of cost, Alternative A would appear to be practicable. EPA recommends the Final EIS provide an evaluation of how the TSP would comply with the Guidelines' requirements.

RESIDUAL RISK AND ENCLOSED WETLANDS

With respect to safety, the Corps has found that Alternative A "risks immediate inundation of developed areas in an overtopping event…", given that portions of this levee alignment would be adjacent to existing development. (Section 3.7, Page 3-11) In contrast, Alternatives C and D would place large wetland areas between the proposed levee and developed areas, thereby providing floodwater storage if the levee were overtopped. It appears the Corps views the enclosure of wetlands behind a levee as a significant project benefit with respect to residual risk and safety. At the same time, however, the Draft EIS acknowledges that wetlands enclosed within the proposed levee could be adversely impacted due to altered hydrology. The decision to view the enclosure of wetlands as an important part of a risk reduction project could lead to further loss and degradation of coastal wetlands.

Based on our review of the Draft EIS, it is unclear to what extent the residual risks associated with each alternative were analyzed and quantified. EPA recommends clarifying this issue, including examining ways to further reduce residual risk associated with Alternative A (e.g., by elevating properties inside the levee system and/or increasing internal pumping capacity), calculating how much undeveloped land would need to be included within the levee system in order to adequately reduce residual risk, and determining the amount of wetland area

that would adequately mitigate residual risk and providing technical evidence to support the findings.

Wetlands enclosed within a levee system are at increased risk of being converted for development purposes. Such induced development would add to cumulative wetland losses, reduce flood storage capacity, and increase properties at risk. However, the Draft EIS does not evaluate the potential for induced development in enclosed wetlands. Moreover, the Draft EIS does not describe how enclosed wetlands would be protected from future development. If enclosed wetlands are determined to be a necessary residual risk reduction feature in order to maintain the appropriate level of public safety, EPA recommends these wetlands be permanently protected by acquisition or conservation servitude.

ESTIMATES OF MITIGATION COSTS

By making a TSP selection using a limited environmental assessment, the Corps may have excluded relevant mitigation costs. For the WSLP study, the Corps is proposing to include environmental structures to maintain hydrologic connectivity between enclosed and flood-side wetlands. The number, locations, and sizes of these environmental structures are critical for minimizing potential indirect impacts to wetlands. In that regard, the Draft EIS states that "[h]ydrologic information is limited, so estimates were not developed to evaluate the number of environmental structures that would be required for the alternatives" and adds that such information could "greatly increase the cost" associated with an alternative. (Section 3.7, Page 3-13). We recommend that the Final EIS estimate the number of environmental structures needed for each alternative in order to more accurately calculate and compare benefit-to-cost ratios. The Draft EIS also states that "[a]t this stage, mitigation costs for indirect impacts remain uncertain due to limited hydrologic information and lack of a full wetland value assessment". (Section 3.6, page 3-10) We recommend the Corps consider whether limitations in the assessment of potential wetland mitigation costs could be significant relative to the benefit-to-cost ratios for each alternative.

The selection of Alternative C as the TSP is in part based on the Corps finding that it maximizes net project benefits. According to the Draft EIS, Alternative A would provide a 1.48 benefit-to-cost ratio, while Alternative C would provide a 1.63 benefit-to-cost ratio. Given information limitations pertaining to environmental structures, adverse impacts, mitigation, and other factors, we recommend that the Corps re-evaluate the benefit-to-cost ratio.

ASSESSMENT OF ENVIRONMENTAL IMPACTS

According to the Draft EIS, borrow material for this project would come from the Bonnet Carré Spillway or alternative borrow sources not yet identified. Potential borrow pits will be identified during the feasibility- level design of the TSP alignment. During the Preliminary Engineering Design phase of the project, identification and environmental clearance of these pits will be finalized and right of way drawings will be prepared in anticipation of submitting a request to obtain the necessary real estate rights-of-way. As was done for the Greater New Orleans Hurricane and Storm Damage Risk Reduction System, we would strongly encourage the Corps to use non-wetland borrow locations to the maximum extent practicable. Should the

Corps determine that wetland impacts associated with borrow sources are unavoidable, an estimate of such potential wetland impacts (and mitigation costs) should be included in the Final EIS for this project. Other Corps levee NEPA documents in coastal Louisiana have identified specific locations for borrow material including the programmatic EIS for Morganza and the numerous reports prepared for the expedited NEPA process on the post-Katrina New Orleans levee upgrades. Regardless of the language in the appendix, the Draft EIS clearly states that the Corps retains the option to use undisclosed locations with undisclosed impacts. Borrow site wetland impacts can be significant. This is a major deficiency in the impact analysis for WSLP.

An effective assessment of potential indirect wetland impacts is essential to the environmental review of this proposed project. As noted above, limited hydrologic information was used in designing the proposed levee alternatives and estimating potential indirect wetland impacts. The Corps has correctly acknowledged the potential for indirect impacts to enclosed wetlands and has attempted to quantify these impacts in the Draft EIS. However, the effort to do so with limited information highlights the remaining uncertainty regarding this critical component of the WSLP study. For example, it is unclear how the Corps estimated an indirect habitat reduction of 15% for enclosed wetlands.

According to the Draft EIS, hydrologic modeling indicates that the proposed levee could cause a 25% reduction in interchange between floodand protected-side wetlands in at least some portion of the enclosed area. (Section 4.1.1, Page 4-1) It is unclear how this estimate was determined without first specifying the number of how many environmental structures would be constructed. It is also not clear how this modeling result relates to the assumed 15% habitat reduction discussed above. Nevertheless, a 25% reduction in hydrologic exchange would have substantial adverse impacts to the enclosed wetlands, and is not consistent with statements that hydrologic connectivity would generally be maintained between enclosed wetlands and the surrounding swamp. We would also note that this estimate of reduced exchange does not include potential future increases in environmental structure closure due to the combined effects of sea level rise and subsidence.

The assessment of potential indirect wetland impacts does not include an analysis of potential increases in the frequency of environmental structure closures due to relative sea level rise (RSLR) over the life of the project. The Corps has determined that the environmental structures would be closed approximately 8.5 days per year and would otherwise remain open to minimize hydrologic disruption. These closures would occur when water levels outside the levee system meet a certain elevation (or risk) threshold. As has been noted in other Corps levee studies, RSLR can lead to a significant increase in the number of days that such a threshold is met and the environmental structures are closed. Structures originally designed to maintain hydrologic connectivity between enclosed and flood-side wetlands would be increasingly closed, further impounding and isolating interior wetlands.

In this regard, there are similarities between this project and the Corps' Morganza to the Gulf levee system. Both would enclose large wetland areas and include environmental structures intended to reduce hydrologic disruption. In response to comments by EPA and others, the Revised Programmatic EIS for the Morganza to the Gulf system includes the finding that under certain RSLR scenarios, increased closure frequency could have significant adverse impacts to

wetlands, fisheries, and water quality. Despite acknowledging these environmental risks in the Morganza to the Gulf study, the Draft EIS for the WSLP study does not include a similar analysis.

According to the Draft EIS, the data used by the Corps to assess the wetland quality in impacted areas is derived from two monitoring stations (one of which did not provide complete information relative to salinity and/or water levels). We believe this limited data is not sufficient to evaluate potential impacts, especially given the relatively large area of wetlands that would be enclosed, the complexity of assessing indirect wetland impacts, and the importance of minimizing wetland losses. In addition, the tool used for this assessment is based on herbaceous vegetation whereas the vast majority of the potentially enclosed wetlands are forested. The Draft Feasibility Report and EIS acknowledges that this approach is "not ideal", and commits to conducting a full feasibility-level habitat analysis at a later point. (Section 4.3.2, Page 4-14)

The Draft EIS states that the "project would provide for the protection of protected side wetlands, potentially extending their lifespan and their water quality functions" (Section 4.1.3, Page 4-4). No data is provided to support this assertion, which is contrary to statements elsewhere in the document regarding potential adverse impacts to enclosed wetlands. The Draft EIS further states that closure of the levee system during storms "could provide some reduction of the potential ecological stresses associated with saltwater intrusion..." While we fully recognize that portions of the Maurepas Swamp have been stressed by salinity, it is unclear, based on the limited available data, whether this is the case for the portion of the swamp that would be enclosed by the proposed levee. We recommend that the Final EIS provide additional data and analysis to support this conclusion that the proposed levee could benefit enclosed wetlands.

CONSISTENCY WITH OTHER COASTAL RESTORATION EFFORTS

The Draft EIS correctly acknowledges that impoundment (via roads, railroad embankments, and spoil banks) is a cause of wetland decline in the study area. Pursuant to the Water Resources Development Act of 2007, the Corps developed a feasibility study and supplemental EIS for a project that would gap existing spoil banks in the Maurepas Swamp. This project, the Amite River Diversion Canal Modification, is designed to partially undo hydrologic disruption caused by a spoil bank along the Amite River Diversion Canal. The scientific basis for this modification project is the known potential for artificial linear features to cause indirect adverse impacts to wetlands and other aquatic resources. Thus, the Corps has both acknowledged the damage to wetlands caused by artificial hydrologic barriers and proposed measures to partially undo such damage in the Maurepas Swamp. At the same time, however, Alternative C would impound approximately 16 square miles of Maurepas Swamp wetlands (these areas are already partially impounded by Interstate 10). We recommend that the Final EIS clearly describe how the proposed WSLP levee would be consistent with the Corps' efforts to undo hydrologic disruption and impoundment elsewhere in the swamp.

AIR QUALITY IMPACTS

Chapter 2 of the Draft EIS states that air quality for the three parish area (St. Charles, St. John the Baptist, and St. James, Louisiana) is in attainment of all National Ambient Air Quality

Standards and a general conformity determination is not required, and therefore air quality will not be further discussed. EPA believes it is especially important that information regarding the potential air quality impacts during the any construction phase of the project and related mitigation measures are fully discussed (i.e., mitigation measures for Particulate Matter (PM)/dust control, air quality impacts of construction vehicles etc.)

As presented on Page 3-7 of Chapter 3, Alternative A construction would require roughly 3,100,000 cubic yards of earthen borrow material; 3,700,000 yards of geo-textile fabric; 30,000 cubic yards of aggregate limestone road; nearly 5,000 linear feet of T-walls to cross under the interstate; 1,200 linear feet of flood gates; railroad gates and pump stations. Given the enormous amount of construction activities associated with the project, EPA asks that the Final EIS fully discuss air quality impacts related to potential construction activities for the project/plan study area.

EPA also recommends the use of best management practices (BMP)s for PM_{10} and fugitive dust control (e.g., gravel roads, soil wetting practices, limiting access, traffic and speed reduction). To further reduce potential air quality impacts, the responsible agencies should also include a Construction Emissions Mitigation Plan (Plan) and adopt this Plan in the Record of Decision (ROD). The Final EIS should discuss specific actions including dust ordinances on the parish level, educational outreach tools, and tools to minimize the residents' exposure to PM_{10} for St. Charles, St. John the Baptist and St. James Parishes, as applicable. In addition to measures included in the Draft EIS and applicable local, state, or federal requirements, EPA recommends that mitigation measures (as applicable) be included in the Plan in order to reduce impacts associated with emissions of PM, and other pollutants from any planned structural and non-structural activities, and possible future modifications to the roadway system. Specific information on mobile and stationary source control can be found at: http://www.epa.gov/otaq/nonroad-diesel.htm; http://www.epa.gov/ttncatc1/dir1/finepmtech.pdf

GREENHOUSE GAS (GHG) EMISSIONS

The EPA recommends the Final EIS include an inventory of GHG emissions associated with construction of the proposed project.

CLIMATE CHANGE

Given the emphasis by the President in appropriately addressing climate change, including rebuilding infrastructure, EPA recognizes the importance of the Draft EIS's consideration of how climate change could potentially influence the proposed project in terms of its effectiveness over time in reducing flood risk. By including and considering additional analysis regarding potential indirect impacts, the Corps can help ensure the region is rebuilt in a way that makes it more resilient and better able to withstand future storms and other risks posed by a changing climate.

EPA looks forward to continuing to work with the Corps of Engineers and incorporate the President's climate change adaptation goals, strengthening the resiliency of our coastal communities, and addressing the nation's pressing infrastructure needs.

ENVIRONMENTAL JUSTICE ISSUES

Section 2.3.8 of the Draft EIS is not clear whether locations outside the protection of the levee system would experience induced flooding and whether any of these locations would be identified as having potential environmental justice concerns. Additionally, the Draft EIS is also not clear in specifying what the additional outreach methods include and whether they have occurred (p. 2-15). Information on percent minority and percent low income populations was absent from Table 2-12 for Garyville, Louisiana.

According to Section 6.20, one public meeting was held specific to environmental justice issues on May 21, 2013 in Lutcher. The Draft EIS does not provide information as to what issues were identified at this meeting or who attended. The Draft EIS also does not indicate whether there were outreach efforts in Reserve, Louisiana which was identified in the Draft EIS as a potential environmental justice concern in Section 2.3.8.

EPA recommends that the Final EIS 1) clarify the information for Garyville in Table -12, 2), clarify outreach methods listed in 2.3.8, particularly for Reserve, Louisiana, and 3) describe the issues and attendees at the May 21, 2013 public meeting. EPA also requests that the Corps clarify whether there are locations outside the protection of the levees that would experience induced flooding because of their construction and whether these locations have potential environmental justice concerns.

ENVIRONMENTAL JUSTICE REFERENCE COMMUNITIES

The reference communities used in the analysis are comprised of extremely high percentages (61% for St. John Parish) of minority populations (Tables 2-10, 11, and 12). This appears to artificially dilute the representation of minority populations. Furthermore, the reference communities are not large enough to provide an accurate reference. For example, in St. John Parish, almost the entire reference community (total pop of 45,824) is comprised of the towns being analyzed (total pop of 42,449). They are essentially comparing the towns to themselves, not to a reference community. We recommend choosing alternative reference communities for inclusion in the Final EIS.

ENVIRONMENTAL JUSTICE ANALYSIS METHODOLOGIES

Section 2.3.8 of the Draft EIS uses the 50% analysis for minority population identification, but not the meaningfully greater analysis. CEQ guidance explains that minority populations should be identified where either the 50% or meaningfully greater analyses are met, not 'either or' EPA recommends the Final EIS provide an explanation for the use of a 20% greater threshold for the identification of low-income populations and also what constitutes 'low-income', e.g. individuals below Census poverty threshold, etc.

The fact that the majority of the study area is comprised of racial or ethnic minorities should not negate the existence of disproportionate impacts, as the Draft EIS appears to

conclude. (Section 2.3.8) A majority minority population study area may indicate that impacts are disproportionately falling on minority populations. Please clarify in the Final EIS.

The Environmental Justice analysis of impacts from the various alternatives is limited. Analysis of Alternative C states that incremental direct and indirect impacts would result in cumulative impacts to environmental justice populations, but does not describe what these impacts might be or analyze any mitigation measures to address these impacts. Also, the existing discussion of direct and indirect impacts is limited (Section 4.2.8). Please clarify in the Final EIS.

Section 4.2.8 of the Draft EIS states, that for Alternative C, properties in environmental justice communities eligible for acquisition may contribute to impacts on community cohesion due to the removal of a portion of the population. The Draft EIS then states that this population removal could potentially cause the collapse of the entire community. No further explanation or details are provided in the EIS regarding this issue. If these impacts do not similarly apply to the affected general population, then it appears they could be disproportionately high and potentially adverse. The EPA recommends further discussing this potential and, if necessary, considering appropriate mitigation measures in the Final EIS.

ENVIRONMENTAL JUSTICE MITIGATION MEASURES

Mitigation measures for impacts to environmental justice populations are not discussed. Section 2.3.8 of the Draft EIS identifies two communities that qualify as environmental justice communities; Lutcher and Reserve. The Draft EIS proposes further outreach efforts to these communities. While further outreach is appropriate, it is not sufficiently discussed. EPA recommends the Final EIS identify appropriate mitigation measures for these potential impacts.

TRIBAL RESOURCES

Information in the Draft EIS indicates that Corps identified tribes that may potentially be affected by the proposed action. The Draft EIS also describes that government to government consultation as well as National Historic Preservation Act (NHPA) consultation with interested tribal governments is occurring or will occur. EPA recommends that complete descriptions of government to government and NHPA consultation activities be incorporated in the Final EIS, including correspondence to and from Tribal governments and other consultation-related documents. These documents would demonstrate fulfillment of Tribal consultation duties by the Corps and show the level of Tribal government engagement in both processes.