

## **5.0 CONCLUSIONS AND RECOMMENDATIONS**

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### **5.1 SUMMARY OF THE STAFF'S ENVIRONMENTAL ANALYSIS**

We have determined that construction and operation of the proposed G-II Project would result in limited adverse environmental impacts and would be an environmentally acceptable action based on information provided by Guardian and data developed from information requests; field investigations; literature research; alternatives analysis; comments from federal, state, and local agencies; and input from public groups and individual citizens and the mitigation measures recommended below.

As part of our review, we developed specific mitigation measures that we believe would appropriately and reasonably reduce the environmental impacts resulting from construction and operation of the proposed Project. We believe that environmental impacts would be minimized if the proposed Project is constructed and operated in accordance with applicable laws and regulations, Guardian's proposed mitigation, and our additional mitigation measures. We are, therefore, recommending that our mitigation measures be attached as conditions to any authorization issued by the Commission. A summary of the anticipated Project impacts and our conclusions is provided below by resource area.

#### **5.1.1 Geology**

Construction and operation of the Project would have minimal impact on geological resources. There would be a disturbance to the existing topography along the construction right-of-way; however, Guardian would restore topographic contours to pre-construction conditions to the extent practicable following installation of the pipeline.

A limited amount of blasting is anticipated along the pipeline. Geologic conditions at the proposed compressor stations and remaining aboveground facility sites would not require blasting, special equipment, or techniques. Impacts to residences, wells, and structures during blasting would be avoided or minimized by our recommendation that Guardian establish site-specific blasting procedures that would be filed with the Secretary for approval by the Director of FERC's OEP prior to construction.

There are several quarry operations adjacent to the right-of-way. Guardian would avoid impacts on these operations by negotiating with the affected landowners/operators to obtain easement agreements that govern mining activities in the immediate area of the pipeline.

The Project would be located in an area of low seismic risk. Site-specific analysis conducted for the Project revealed that due to low level of ground motion predicted at the site, earthquake hazards were not considered a controlling factor in facility design. A low risk of seismic faulting effects would be anticipated for the Project area.

#### **5.1.2 Soils and Sediments**

Construction and operation of the proposed pipeline route and associated aboveground facilities would affect soil characteristics including prime farmland, certified organic farmland, hydric soils, stony/rocky soils, compaction potential, erosion potential (via wind and water), revegetation potential, topsoil depth, and soil contamination.

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The Project would be constructed and operated in accordance with our Plan. Implementation of these measures would minimize potential adverse effects due to erosion, compaction, horizon mixing, revegetation potential, and soil contamination. In addition, Guardian has developed specific BMPs as part of their AMP in consultation with the DATCP to minimize or mitigate adverse effects on agricultural land. The AMP would also address construction procedures across and in the vicinity of Certified Organic Farms.

### **5.1.3 Water Resources**

#### **5.1.3.1 Groundwater**

Construction and operation of the proposed Project would be conducted in accordance with the standard requirements for pipeline construction and operation in our Plan. The proposed Project would avoid impacts on sole-source aquifers, wellhead protection areas, drinking water wells, and springs. The Project would also not cross any known areas associated with contaminated groundwater. However, due to landowner concerns, we are recommending that prior to construction Guardian consult the WDNR, Bureau of Drinking Water & Groundwater to determine if the G-II Project could affect arsenic levels in groundwater in Outagamie and Brown Counties, Wisconsin. If there is a potential effect, we also recommend that Guardian develop mitigation measures that would minimize oxidation of arsenic-containing sulfides in consultation with the WDNR, Bureau of Drinking Water & Groundwater and file documentation of the consultation and any mitigation plans with the Secretary.

Other potential impacts on groundwater resources would be avoided or minimized by the implementation of our requirements as included in our Plan, Guardian's SPCC Plan, and Guardian's commitment to repair or replace wells damaged by construction. In addition, until damaged wells are repaired, Guardian would provide a temporary source of water, such as contracting with a local water supply firm, to deliver potable water.

#### **5.1.3.2 Surface Water**

The proposed Project would cross 27 perennial streams, 86 intermittent streams and one pond. As proposed, the majority of the waterbodies crossings would be accomplished using open-cut methods during periods of low flow. HDD installation techniques would be used to accomplish pipeline installation across three waterbodies including the Rock River, the Fox River, and Apple Creek. (The Fox River and Apple Creek will be crossed simultaneously with one HDD.) The Fox River is listed as containing PCB-contaminated sediments in addition to mercury and elevated suspended sediments. The use of the HDD crossing method at this waterbody would prevent interaction with any contaminated sediments within the river. The use of the HDD method at the Rock River would enable Guardian to avoid impacts to approximately 2.5 acres of forested wetland adjacent to the waterbody. Waterbody crossings would be accomplished in accordance with our Procedures and the terms of any applicable federal or state permits that may be granted.

Accidental spills during construction and operation would be prevented or adequately minimized through implementation of our Procedures and Guardian's SPCC Plan. Additionally, Guardian's HDD Contingency Plan for the Inadvertent Release of Drilling Fluid describes the procedures that would be implemented to monitor for, contain, and clean up any inadvertent releases of drilling fluids during HDD operations.

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Guardian has proposed to use surface waters and municipal water supplies for hydrostatic testing of the proposed pipeline and/or the compressor stations. Guardian would avoid or adequately minimize potential effects to waterbodies resulting from hydrostatic testing by implementing our Plan and by avoiding the use of potentially toxic test water additives.

#### **5.1.4 Vegetation**

##### **5.1.4.1 Wetland Vegetation**

Construction of the proposed G-II Project would affect about 61.4 acres of wetland and result in a total of 3.4 acres of permanent wetland disturbance, including approximately 3.2 acres of forested wetlands and approximately 0.2 acre of palustrine, scrub-shrub or emergent wetlands. No wetlands would be affected by the proposed aboveground facilities

Guardian would avoid and minimize wetland impacts by reducing the construction right-of-way width through wetlands to 75 feet. Guardian specified nine locations where site-specific constraints require that the additional temporary workspace be located within 50 feet of the wetland boundary. We have reviewed these locations and have determined that the requests are acceptable due to the constraints of the surrounding habitats (i.e., forest, wetland, and riparian habitat). Guardian would also coordinate with the WDNR and the COE, prior to construction, to receive additional authorization for any jurisdictional wetland crossings. Guardian also submitted a joint Chapter 30 and Section 404 application to the WDNR and COE on April 30, 2007, with revisions to the applications on June 18, 2007.

Affected wetlands located outside the maintained portion of the permanent pipeline right-of-way would be allowed to revert to preconstruction conditions. Impacts on emergent and scrub-shrub wetlands would be minor overall as regeneration to preconstruction condition would occur rapidly in these areas, and maintenance of the permanent pipeline right-of-way would not result in a permanent conversion of emergent wetlands. Impacts on forested wetlands would be either permanent or long-term due to the slow regeneration time of forested areas. Guardian would also develop and conduct a wetland monitoring and forested wetland mitigation plan in coordination with WDNR and the COE.

##### **5.1.4.2 Upland Vegetation**

The primary impact of the proposed Project on vegetation would be the clearing and removal of vegetation during construction. The upland vegetative community type most affected by the construction of the proposed pipeline, workspaces, and the associated above ground facilities is agricultural lands. Approximately 93 percent of the upland vegetative communities affected by the Project are agricultural lands, 2.9 percent are forested uplands, 3.4 percent are non-agricultural open lands, and 0.1 percent are developed lands. Guardian's proposed aboveground facilities would involve the removal of 51.1 acres of non-forested agricultural vegetation (including agricultural fields, row crops, and pasture land), with a permanent impact of 46.0 acres during Project operation. Guardian proposes to construct 26 access roads for use during construction of the Project, five of which would be kept and used during operation of the Project. A total of 14.4 acres of agricultural land and 0.1 acre of forest land would be affected by construction of the access roads, 4.6 acres of which would be permanently affected along the five permanent access roads.

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Most impacts on vegetation would be short-term and temporary. Forested habitats would be affected most substantially, however, with long-term conversion of wooded areas to earlier successional stages occurring in the temporary construction right-of-way and a permanent conversion to scrub-shrub or herbaceous habitats within the permanent pipeline right-of-way. About 51.6 acres (2.9 percent) of forested land would be affected during construction, of which 18.1 acres would be permanently converted to non-forest habitat (e.g., low shrub or grassland habitats) for the life of the Project along the permanent right-of-way.

Guardian would implement our Plan to minimize erosion and enhance revegetation in upland areas, as well as follow the specific recommendations based on consultations with the WDNR. To further minimize impacts on previously undisturbed vegetation and forested lands, where possible Guardian has routed the pipeline to avoid forested lands, follow forest edges or previously cleared rights-of-ways, or has sited the pipeline to follow existing utility and road corridors.

With the use of Guardian's proposed measures and our Plan, the effects to upland vegetation would be effectively minimized.

## **5.1.5 Wildlife and Aquatic Resources**

### **5.1.5.1 Wildlife**

The wetlands and upland vegetation communities crossed by the proposed pipeline route support habitats that provide cover and forage for a variety of wildlife species including birds, mammals, reptiles, and amphibians. Physical disturbance, displacement, and clearing of herbaceous upland and wetland habitats would affect wildlife at or near the time of construction, but such effects would be largely temporary as most terrestrial wildlife would relocate and many habitats would generally recover quickly following construction. In addition, the majority of the land (93 percent) affected by the pipeline is agricultural. Habitats associated with agricultural areas have already been significantly altered from their original vegetative communities, and typically support a low diversity of wildlife. Some types of wildlife, such as small mammals, amphibians, and reptiles, would have a higher than normal relative mortality during construction, as they would have less ability to relocate during clearing, grading, and trenching activities.

A potential long-term impact to wildlife is a result of the clearing of forest habitat. To minimize impacts on previously undisturbed vegetation and wildlife habitats, where possible, Guardian has routed the pipeline to avoid most forested lands, followed forest edges or previously cleared rights-of-ways, or has located the pipeline within existing utility rights-of-way.

Guardian would further minimize impacts on wildlife habitats through implementation of our Plan and Procedures. Impacts on migratory birds would be minimized during operation of the pipeline, routine vegetation maintenance of the pipeline right-of-way would be performed no more frequently than every three years and would not take place between April 15 and August 1 of any year to avoid impacts on nesting birds.

Proposed aboveground facilities would be located in agricultural fields, therefore impacts on wildlife during construction and operation of these facilities would be minimal. We do not expect wildlife to be significantly impacted by the Project.

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### **5.1.5.2 Aquatic Resources**

The waterbodies that would be crossed by the proposed Project provide habitat for a variety of aquatic species, primarily including warm water fishes and one coldwater trout community. Potential impacts on fisheries and aquatic habitats would include sedimentation and turbidity, loss of cover, introduction of pollutants into the aquatic environment, potential blockage of fish migrations and interruptions of spawning, and entrainment or loss of stream flow during construction and hydrostatic testing. As described above, all waterbody crossings would be accomplished in accordance with our Procedures. At two locations site-specific constraints require that the additional temporary workspaces be located within 50 feet of the water's edge. We have reviewed these locations and have determined that the requests are acceptable due to the constraints of the surrounding habitats (i.e., forest, wetland and riparian habitat). Waterbody crossings would also be accomplished in accordance with the terms and conditions of any applicable federal or state permits that may be granted.

Aquatic habitat impacts at crossing locations would be largely temporary, as crossings would be completed in less than 48 hours in most instances. Additionally, intake screening to limit entrainment of fishes and maintenance of adequate stream flow rates to protect aquatic life during hydrostatic test water withdrawals would further ensure that any Project-related impacts on aquatic habitats would be minor and temporary. Direct impacts on aquatic resources would also be avoided by the use of HDD at the two major waterbodies, the Fox River, Apple Creek, and the Rock River.

### **5.1.6 Threatened, Endangered, and Other Special Status Species**

Two federally protected species (bald eagle and eastern prairie fringed orchid) were identified as potentially occurring within the proposed G-II Project area. Based on our review of known occurrences of the two federal species within the Project area, we have determined that the Project would have no effect on these species.

Twelve State of Wisconsin protected species and five Wisconsin species of special concern were identified as potentially occurring within the proposed G-II Project area. Guardian has conducted habitat screening to identify appropriate habitats to focus searches for protected species that will be conducted prior to construction. If habitat is found, or species presence is verified during these investigations, Guardian has agreed to consult with appropriate federal and state agencies to develop mitigation strategies that reduce impacts on those species. We are recommending that Guardian file the results of its state-listed threatened, endangered, and special status species surveys in addition to developing mitigation strategies that reduce impacts on those species. Based on our analysis of habitat that would be affected by the Project, the implementation of our recommendation, and Guardian's commitment to develop measures to avoid or minimize potential impacts on these species if suitable habitat is identified, we have determined that the Project would not adversely affect these state-listed species.

### **5.1.7 Land Use, Recreation, and Visual Resources**

Construction of the G-II Project would affect a total of about 1,766.9 acres of land: 1,482.0 acres for the pipelines, 51.1 acres for the aboveground facilities (including the seven meter stations, associated MLVs, and launcher receiver facilities); 14.5 acres for access roads; 191.7 acres for additional temporary workspace; and 27.6 acres for a pipe storage and contractor yard.

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Operation of the Project would affect about 768.6 acres of land, of which 46.0 acres would be permanently converted for operation of the aboveground facilities, and the remaining 722.6 acres would be within the permanent operational right-of-way.

The proposed Project would cross 0.5 mile of residential land, and 6.3 acres of residential land would be affected by construction. Two residences, four barns, and two garages, and three commercial buildings would be located within 50 feet of the pipeline construction work area. Temporary construction impacts on residential areas could include inconvenience caused by noise and dust generated by construction equipment; trenching through roads or driveways; ground disturbance of lawns; removal of landscaping or natural vegetative screening; potential damage to existing septic systems or wells; and removal of aboveground structures, such as sheds or trailers, from within the right-of-way. Following construction approximately 3.1 acres of the 6.3 acres of residential land affected by construction would be retained as permanent right-of-way.

To minimize disruption to residences and businesses within 50 feet of the construction right-of-way and ensure public safety, we are recommending that Guardian leave mature trees and landscaping along the edge of the construction work area, restore lawns and landscaping according to our Plan immediately after backfilling, and fence the edge of the construction right-of-way for a distance of 100 feet on either side of a residence. For the three commercial businesses within 25 feet of the construction right-of-way we are recommending that Guardian develop site-specific plans. In general, residential land use would not be affected during operation, because typical routine vegetation maintenance would not be conducted in residential areas.

The proposed Bluff Creek Compressor Station site in Walworth County, Wisconsin would be located along Kettle Moraine Scenic Drive. Guardian has agreed to minimize the potential impacts to the Kettle Moraine Scenic Drive by enclosing aboveground facilities in buildings that are similar in appearance to those of the surrounding landscape. Guardian is also committed to appropriately maintaining the grounds of its aboveground facilities (e.g., mowing and maintenance of any trees and/or shrubbery) to ensure both safety and the “kept” appearance of the overall site. Given Guardian’s plans to construct buildings similar to those of the surrounding landscape and properly maintain aboveground facilities, impacts on this area would be minor. No other recreation or special interest areas such as developed recreational facilities, parks, forests, wildlife management areas, wilderness areas, trails, or registered natural landmarks have been identified in the vicinity of the proposed Project.

Impacts on visual resources due to the pipeline would be primarily temporary and short-term, occurring during construction. During construction, the cleared and graded right-of-way, as well as the construction equipment could be visible from any surrounding residences and local roads. The clearing and grading would result in color changes to the landscape, and the construction equipment would create tracks, compress vegetation, and expose soils. Because the terrain over much of the Project area is gently rolling, views of the construction activities may extend for some distance. Following construction, the right-of-way would be restored to preexisting conditions and the farmers would be allowed to grow crops over the pipeline on agricultural lands. Within one or two years construction work areas would normally be difficult to distinguish from surrounding areas. Therefore, no long-term visual impacts would result from construction and operation of the pipeline in non-forested areas. However, we are recommending that Guardian develop site-specific screening plans for each of the proposed

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compressor stations, several meter stations, and MLVs to ensure that the physical presence of these structures does not adversely affect viewsheds and/or the aesthetics of the area and/or residences in proximity to these facilities.

### **5.1.8 Socioeconomics**

Construction of the proposed Project would not have a significant adverse impact on local populations, housing, employment, community services, or local commerce. Any adverse impacts would be highly localized and temporary due to the relatively short construction period and the rapid rate at which construction crews would pass through any one area.

Construction of the proposed Project would require a maximum of 420 to 520 workers during the 7-month construction period (March 2008 to October 2008). This number would temporarily increase demand for public services such as medical, police, and fire protection, but these effects would be offset by increased tax revenues to local governments. The proposed Project would have positive impacts on local spending, employment, and tax income during construction and operation. There is no evidence that the proposed Project would have a disproportionate share of adverse environmental or socioeconomic impacts on any racial, ethnic, or socioeconomic group.

### **5.1.9 Transportation and Traffic**

Construction of the proposed Project would not have a significant adverse impact on local transportation and traffic. Any adverse impacts would be highly localized and temporary due to the relatively short construction period and the rapid rate at which construction crews would pass through any one area during construction of the pipeline. Construction of the compressor stations would have the longest construction times in any single location. Because of the rural nature of the area, construction of the compressor stations would only have minor impacts on transportation and traffic in the vicinity of the compressor stations.

Construction workers commuting to the Project area are expected to add an average of approximately 341 to 411 vehicle trips per day. At the peak of construction, a maximum of 420 to 520 construction worker vehicle trips are expected. An additional 344 trucks would make deliveries each day all along the pipeline route. This level of traffic would remain fairly constant throughout the construction period; however, pipeline construction work is generally scheduled to take advantage of daylight hours so that most workers commute to and from the sites in off-peak hours. Detours or obstructions in traffic flow due to the large vehicles or construction of pipeline road crossings may result in short-term interruptions in local traffic. To minimize impacts on local traffic Guardian would notify affected towns and counties prior to construction. In addition, when it is necessary for equipment to move across paved roads, mats or other appropriate measures would be used to prevent damage to the road surface. Guardian contractors would also comply with applicable vehicle weight and width restrictions, and to remove soil that is left on the road surface by the crossing of construction equipment. Additional traffic control and safety measures may also be required as conditions of state, county, or local road crossing permits.

### **5.1.10 Cultural Resources**

Guardian's contractor has surveyed a total of about 92.3 miles along the proposed pipeline route. There remains about 27 miles of pipeline route to be surveyed. Of five archaeological sites recorded within the APE, along the proposed route only one site was recommended as

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potentially eligible to the NRHP. However, site 47DO657 is situated outside of the proposed construction right-of-way for the pipeline and should be avoided by the Project.

Guardian has consulted with other interested Indian tribes about the Project and potential presence of culturally sensitive areas within the APE. No additional specific areas have been identified as culturally sensitive.

The Illinois SHPO commented that the Project may proceed in Illinois and has not noted any specific Project effects. The Wisconsin SHPO has reviewed the initial Phase I report of archaeological survey and will review and comment on subsequent submittals for the Project as they become available.

To ensure compliance with the NHPA, we are recommending that Guardian defer construction until all cultural resource surveys, evaluation reports, and necessary avoidance or treatment plans are filed with the Secretary; copies of comments from the Wisconsin SHPO and interested Indian tribes on all reports and plans have been provided; and the ACHP has been given an opportunity to comment if any historic properties would be adversely affected.

Guardian has developed updated Unanticipated Discoveries Plans that it proposes to implement during Project construction. The plan for Illinois was accepted by the SHPO. The Wisconsin SHPO has not specifically commented on the plan for Wisconsin.

### **5.1.11 Air Quality and Noise**

#### **5.1.11.1 Air Quality**

Air quality impacts associated with construction of the proposed Project would include emissions from fossil-fueled construction equipment and fugitive dust. However, such air quality impacts would generally be temporary and localized and are not expected to cause or contribute to a violation of applicable air quality standards. Because the compressors at the proposed Bluff Creek and Sycamore Compressor Stations would be electrically driven, the only source of air contaminants would be the diesel-fuel-fired emergency backup generators. Operation of these emergency generators would be limited to 500 hours per year, and air pollutant emissions associated with operation of these emergency generators would meet all federal or state air quality requirements.

#### **5.1.11.2 Noise**

Local traffic and farming activities are the primary sources of existing noise in the rural areas where the pipeline would be located. Noise from operation of the electric-powered Bluff Creek and Sycamore compressor stations would not create a significant noise impact at the nearest NSAs to each station. During construction of the Project, neighbors in the vicinity of the construction right-of-way would hear the daytime construction activities, but there would be no nighttime construction except during a few days at the Rock River and Fox River/Apple Creek crossings where the HDD technique would be used. Predicted noise levels due to operation of the two compressor stations and construction of the two river crossings using the HDD technique would not exceed the 55 dBA  $L_{dn}$ . Guardian has stated that it would implement temporary noise mitigation measures if the 55 dBA  $L_{dn}$  level is exceeded, or if the noise becomes an issue at either location. Erecting a barrier using hay bales is one approach suggested by Guardian. Such a barrier could potentially be more effective than a commercially available product because of

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the thickness and sound-absorptive characteristics of hay bales. In addition, to ensure the predicted noise levels from the compressor stations are not exceeded at NSAs during operations, we are recommending that Guardian file noise surveys with the Secretary no later than 60 days after placing the compressor stations in service. If the noise attributable to the operation of compressor stations exceeds the 55 dBA  $L_{dn}$  at an NSA, we are also recommending that Guardian file a report and install the necessary additional noise controls to meet the level within one year of the in-service date.

### **5.1.12 Reliability and Safety**

The DOT is mandated to provide pipeline safety under Title 49, United States Code Chapter 601. The DOT pipeline standards are published in Parts 190-199 of Title 49 of the CFR. Part 192 of 49 CFR specifically addresses natural gas pipeline safety issues.

The pipeline and aboveground facilities associated with the G-II Project must be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures. Because the G-II Project would be built according to DOT standards, we do not believe it would be a threat to public safety, and no specific mitigation is recommended.

### **5.1.13 Cumulative Impacts**

The original Guardian Pipeline (G-I) consisting of 150 miles of pipeline was approved by FERC in 2002 and was constructed in 2002 and 2003 from Joliet, Illinois to Ixonia, Wisconsin. If the G-II Project is approved by the Commission and constructed, it would extend northward from Ixonia where the previous project had ended, and the two compressor stations would be constructed along the previously constructed pipeline.

Several other projects could also be constructed within the same general area and same general time span. The nonjurisdictional We Energies and WPS lateral projects identified in our analysis would be constructed within a similar time span using similar construction methods and any potential contribution to cumulative impacts of the proposed Project would be negligible due to the small scope of those projects.

The ComEd Sycamore Powerline and Transformer/Substation and the ATC Bluff Creek Transformer/Substation would be constructed to bring electric power to Guardian's compressor stations. The transformer/substations would be built within the footprint of the compressor stations, thereby minimizing additional impact. The 2.7-mile, 138-kV ComEd Powerline to the Sycamore Compressor Station would also be constructed within an existing powerline easement and would result in no additional impacts.

Unrelated projects, which include the Forward Wind Energy Center, Green Field Blue Sky Wind Energy, Holsum Elm Dairy, Cedar Ridge Wind Farm, WIS 32, Claude Allouez Bridge Replacement, US 151 projects, ATC Rubicon-Hustisford-Hubbard Project, ATC Gardner Park/Central Wisconsin/Morgan/Werner West Project, and ATC Jefferson Reliability Project identified in our cumulative impact analysis would be of a different nature than the proposed Project, but would affect similar resources. Each of these unrelated projects would result in temporary and minor effects during construction, but each project would be designed to avoid or minimize impacts on the human environment and to wetlands, waterbodies, protected and special

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status species, and other sensitive resources. Except for the Guardian Project (Phase 1), the FERC has no authority over the permitting, licensing, funding, construction, or operation of the projects included in our analysis. Federal, state, and local agencies must review these projects for compliance with requirements for construction of facilities at sites or places where a governmental license or permit may be required. Where appropriate, environmental conditions and/or mitigation designed to minimize or avoid impacts would be attached to the necessary permits and approvals. Mitigation generally leads to the avoidance or minimization of cumulative impacts. We therefore consider that the potential cumulative impacts of the previous G-I and the proposed G-II Projects under our review have been or would be minimized.

We believe that impacts associated with the proposed Project would be relatively minor, and we are including recommendations in this EIS to further reduce the environmental impacts associated with the Project. The environmental impacts associated with the G-II Project would be minimized by careful project routing, utilization of HDD techniques to avoid and minimize impacts on some sensitive resources, and implementation of appropriate mitigation measures. Consequently, only a small cumulative effect is anticipated when the impacts of the proposed Project are added to past, present, or reasonably foreseeable future projects in the area.

#### **5.1.14 Alternatives**

The EIS addresses alternatives to the proposed actions before the FERC and Section 3.0 of the EIS clearly describes the criteria for alternative selection.

We considered the alternatives of no action or postponed action, pipeline system alternatives and route alternatives. While the no action or postponed action alternatives would eliminate or postpone the environmental impacts identified in this EIS, the objectives of the proposed Project would not be met.

Our analysis of system alternatives included an evaluation of the use of existing pipeline systems. None of the existing facilities has the ability to add the capacity proposed in this Project. We also analyzed and evaluated six pipeline route alternatives, 17 route variations (including 10 minor variations), and four modifications. Of these, Guardian has agreed to all of the routes as recommended by the FERC. Our alternatives analysis also included the evaluation of five meter station location alternatives and two compressor station location alternatives. None were considered to be environmentally preferable to the proposed Project.

Based upon this alternatives analysis, we have determined that the proposed G-II Project, as modified by our recommended mitigation, is the preferred alternative that can meet the Project objectives.

### **5.2 FERC STAFF'S RECOMMENDED MITIGATION**

If the Commission issues their authorization for the proposed Project, we recommend that the Commission's Order (Order) include the following measures as conditions to the Order section. We believe these measures would further mitigate the environmental impacts associated with the construction and operation of the proposed Project.

1. Guardian shall follow the construction procedures and mitigation measures described in its application, supplemental filings (including responses to staff information requests), and as identified in the EIS, unless modified by the Order. Guardian must:

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- a. request any modification to these procedures, measures, or conditions in a filing with the Secretary;
  - b. justify each modification relative to site-specific conditions;
  - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
  - d. receive approval in writing from the Director of OEP **before using that modification.**
2. The Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the Project. This authority shall allow:
    - a. the modification of conditions of the Order; and
    - b. the design and implementation of any additional measures deemed necessary (including stop work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from Project construction and operation.
  3. **Prior to any construction**, Guardian shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors, and contractor personnel will be informed of the environmental inspector's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.
  4. The authorized facility location shall be as shown in the EIS, as supplemented by filed alignment sheets, and shall include all of the staff's recommended facility locations. **As soon as they are available, and prior to the start of construction**, Guardian shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

Guardian's exercise of eminent domain authority granted under NGA Section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. Guardian's right of eminent domain granted under NGA Section 7(h) does not authorize it to increase the size of its natural gas pipeline to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

5. Guardian shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, and documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any

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other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **prior to construction** in or near that area.

This requirement does not apply to route variations required herein or minor field realignments per landowner needs and requirements, which do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

- a. implementation of cultural resources mitigation measures;
- b. implementation of endangered, threatened, or special concern species mitigation measures;
- c. recommendations by state regulatory authorities; and
- d. agreements with individual landowners that affect other landowners or would affect sensitive environmental areas.

6. **Within 60 days of the acceptance of this certificate and prior to construction**, Guardian shall file an initial Implementation Plan with the Secretary for review and written approval by the Director of OEP describing how Guardian would implement the mitigation measures required by the Order. Guardian must file revisions to the plan as schedules change. The plan shall identify:

- a. how Guardian will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
- b. the number of environmental inspectors assigned per spread, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
- c. company personnel, including environmental inspectors and contractors, who will receive copies of the appropriate material;
- d. what training and instructions Guardian will give to all personnel involved with construction and restoration (initial and refresher training as the Project progresses and personnel change), with the opportunity for OEP staff to participate in the training session;
- e. the company personnel (if known) and specific portion of Guardian's organization having responsibility for compliance;
- f. the procedures (including use of contract penalties) Guardian will follow if noncompliance occurs; and
- g. for each discrete facility, a Gantt or Program Evaluation Review Technique (PERT) chart (or similar project scheduling diagram), and dates for:
  - (1) the completion of all required surveys and reports;
  - (2) the mitigation training of onsite personnel;
  - (3) the start of construction; and
  - (4) the start and completion of restoration.

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7. Guardian shall employ one or more environmental inspectors per construction spread. The environmental inspectors shall be:
    - a. responsible for monitoring and ensuring compliance with all mitigative measures required by the Order and other grants, permits, certificates, or other authorizing documents;
    - b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract and any other authorizing document;
    - c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;
    - d. a full-time position, separate from all other activity inspectors;
    - e. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
    - f. responsible for maintaining status reports.
  
  8. Guardian shall file updated status reports with the Secretary on a **weekly** basis **until all construction-related activities, including restoration, are complete for each phase of the Project**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:
    - a. the current construction status of each spread, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
    - b. a listing of all problems encountered and each instance of noncompliance observed by the environmental inspector(s) during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
    - c. a description of corrective actions implemented in response to all instances of noncompliance, and their cost;
    - d. the effectiveness of all corrective actions implemented;
    - e. a description of any landowner/resident complaints that may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
    - f. copies of any correspondence received by Guardian from other federal, state or local permitting agencies concerning instances of noncompliance, and Guardian's response.
  
  9. Guardian must receive written authorization from the Director of OEP **before commencing service** of the Project. Such authorization will only be granted following a determination that rehabilitation and restoration of areas affected by the Project are proceeding satisfactorily.
  
  10. **Within 30 days of placing the certificated facilities in service**, Guardian shall file an affirmative statement with the Secretary, certified by a senior company official:
    - a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or

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- b. identifying which of the certificate conditions Guardian has complied with or will comply with. This statement shall also identify any areas affected by the Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
11. Guardian shall develop and implement an environmental complaint resolution procedure. The procedure shall provide landowners with clear and simple directions for identifying and resolving their environmental mitigation problems/concerns during construction of the Project and restoration of the right-of-way. **Prior to construction**, Guardian shall mail the complaint procedures to each landowner whose property would be crossed by the Project.
- a. In its letter to affected landowners, Guardian shall:
- (1) provide a local contact that the landowners should call first with their concerns; the letter should indicate how soon a landowner should expect a response;
  - (2) instruct the landowners that, if they are not satisfied with the response, they should call Guardian's Hotline; the letter should indicate how soon to expect a response; and
  - (3) instruct the landowners that, if they are still not satisfied with the response from Guardian's Hotline, they should contact the Commission's Enforcement Hotline at (888) 889-8030, or hotline@ferc.gov.
- b. In addition, Guardian shall include in its weekly status report a copy of a table that contains the following information for each problem/concern:
- (1) the date of the call;
  - (2) the identification number from the certificated alignment sheets of the affected property and approximate location by MP;
  - (3) the description of the problem/concern; and
  - (4) an explanation of how and when the problem was resolved, will be resolved, or why it has not been resolved.
12. Guardian shall file copies of the third-party agricultural monitoring reports with the Secretary **when Guardian receives these reports from the DATCP**. (section 2.5)
13. **Prior to construction**, Guardian shall file with the Secretary for review and approval by the Director of the OEP a blasting plan detailing the procedures to be used during blasting to prevent the introduction of blast rock into agricultural lands, and prevent damage to surrounding areas, wells, and/or structures. (section 4.1.1)
14. **Prior to construction**, due to landowner concerns, Guardian shall consult the WDNR, Bureau of Drinking Water & Groundwater to determine if the G-II Project could affect arsenic levels in groundwater in Outagamie and Brown Counties. If there is a potential effect, Guardian shall develop mitigation measures that would minimize oxidation of arsenic containing sulfides in consultation with the Wisconsin Department of Natural Resources, Bureau of Drinking Water & Groundwater and file documentation of the consultation and any mitigation plans with the Secretary. (section 4.3.1.1)

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15. In the event the planned HDD crossing of the Fox River, Apple Creek, and/or Rock Rivers fail, Guardian shall develop final alternative crossing plans in consultation with the COE, EPA Region 5 Remedial Manager, and WDNR Project Coordinator. The final alternative crossing plans shall be filed with the Secretary for review and for written approval from the Director of the OEP **prior to conducting any such alternative crossing**. (section 4.3.2.3)
  16. If a state-protected species or its habitat are found within the proposed construction right-of-way or construction work areas, Guardian shall consult with WDNR regarding survey methodology, and develop mitigation plans, if necessary, to avoid or minimize impacts to that species. Guardian shall file the results of any state-threatened and endangered species surveys (including survey methodology) and mitigation plans with the Secretary **prior to construction**. (section 4.6.3)
  17. For all residences and commercial buildings within 50 feet of the construction work area Guardian shall:
    - a. leave mature trees and landscaping within the edge of the construction work area, unless necessary for safe operation;
    - b. restore all lawn areas and landscaping within the construction work area consistent with the requirements of our Plan immediately after backfilling the trench; and
    - c. fence the edge of the construction work area adjacent to the residence for a distance of 100 feet on either side of the residence to ensure that construction equipment and materials, including the spoil pile, remain within the construction work area. (section 4.7.4.1)
  18. For all commercial buildings closer than 25 feet to the construction work area, **prior to construction** Guardian shall file with the Secretary for review and approval of the Director of OEP a site-specific plan that includes:
    - a. a description of construction techniques to be used (such as reduced pipeline separation, centerline adjustments, use of stove-pipe or drag-section techniques, working over existing pipelines, pipeline crossover, bore, etc.), and a site plan that shows:
      - (1) the location of the commercial building in relation to the new pipeline and, where appropriate, the existing pipelines;
      - (2) the edge of the construction work area;
      - (3) the edge of the new permanent right-of-way; and
      - (4) other nearby residences, structures, roads, or waterbodies.
    - b. a description of how Guardian would ensure that the trench is not excavated until the pipe is ready for installation and that the trench is backfilled immediately after installation. (section 4.7.4.1)
  19. **Prior to construction**, Guardian shall file site-specific screening plans for the Sycamore and Bluff Creek Compressor Stations; the Sheboygan, Chilton, Southwest Green Bay, and West Green Bay Meter Stations; MLVs 12, 13, and 14; and the valve at the end of

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the Denmark Branch Line with the Secretary for review and approval of the Director of OEP. (section 4.7.6.2)

20. To ensure that the FERC’s responsibilities under the NHPA and its implementing regulations are met, Guardian shall defer construction of facilities, including the use of staging, storage, and temporary work areas, and new or to be improved access roads **until**:
- a. Guardian files with the Secretary all additional required cultural resource inventory and evaluation reports, and necessary avoidance or treatment plans;
  - b. Guardian files copies of comments from the Wisconsin SHPO and interested Indian tribes on all reports and plans;
  - c. the ACHP has been provided an opportunity to comment if any historic properties would be adversely affected; and
  - d. the Director of OEP reviews and approves all reports and plans and notifies Guardian in writing that it may proceed with treatment or construction.

All material filed with the Commission that **contains location, character, and ownership** information about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: “**CONTAINS PRIVILEGED INFORMATION - DO NOT RELEASE.**” (section 4.10.4)

21. To ensure that there will be no excessive impacts to noise quality at the nearest NSAs as a result of compressor station operations, Guardian shall make all reasonable efforts to ensure its predicted noise levels from the compressor stations are not exceeded at NSAs and file noise surveys showing this with the Secretary **no later than 60 days** after placing the compressor stations in service. If the noise attributable to the operation of compressor stations exceeds 55 dBA L<sub>dn</sub> at an NSA, Guardian shall file a report on what changes are needed and shall install additional noise controls to meet the level **within 1 year** of the in-service date. Guardian shall confirm compliance with these requirements by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (section 4.11.2.2)