With Hill Talks In Limbo, Groups Step Up Efforts To Use AI In NEPA Reviews

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Public and private entities are stepping up their efforts to incorporate artificial intelligence (AI) to speed National Environmental Policy Act (NEPA) reviews, as Capitol Hill talks on overhauling federal permitting practices remain in limbo in the midst of the ongoing government shutdown.

These efforts range from a pilot project at the Energy Department's Pacific Northwest National Laboratory (PNNL), the White House Council on Environmental Quality's (CEQ) looming request for proposals on its **Permitting Technology Action Plan** to speed NEPA reviews, and private firms' launch of AI engagement tools, sources explain.

Such projects echo calls from Congress to encourage greater use of AI and other technologies into NEPA reviews. Specifically, language in the 2023 debt limit law called for CEQ to explore technology options to speed NEPA reviews, resulting in the action plan's release earlier this year.

Lawmakers are also eyeing **additional measures** to further deploy AI in NEPA. For example, Reps. Scott Peters (D-CA) and Dusty Johnson (R-SD) are sponsoring H.R. 4503, a bill that aims to speed NEPA permitting by digitizing the process and deploying AI to help draft environmental impact statement (EIS) documents, with human oversight.

It would also allow use of AI to help determine whether applications are complete and whether categorical exclusions (CEs) can apply. AI could also help address the rapid turnover of NEPA personnel.

The PNNL project, "**Permit AI**," is an umbrella term for a number of sub-projects, explains Boon Sheridan, permitting technology lead for the Environmental Policy & Innovation Center (EPIC) and a former longtime CEQ staffer who coauthored a report to Congress on permitting technology innovation.

The goal is to build "a one-stop data platform and powerful suite of [AI] tools to streamline and accelerate the review process for critical federal infrastructure," PNNL's project description says. It will offer the ability to search, engage and comment on NEPA

documents and "will enable local, state and federal agencies to make faster, more informed permitting decisions, reducing delays and costs."

Sheridan says the project developers are collecting NEPA documents from four agencies: EPA, the Department of Energy, the Department of Agriculture and the Bureau of Land Management. They are largely in massive "pdf" file form that makes it difficult to take information out automatically. So, the researchers developed a standardized metadata and text corpus of NEPA documents that allows them to have a common taxonomy of descriptions and tags and are making them searchable.

Difficult To Modernize
[An Aug. 20 paper](#), "Standardized Metadata and Text Corpus of National Environmental Policy Act Documents," that project developers released says efforts to modernize NEPA have been challenging in part, "due to the lack of standardized formats and interoperable systems for organizing and sharing NEPA-related information across agencies."

Information such as CEs, environmental assessments (EAs) and environmental impact statements (EISs) are written, "then filed in predominantly independent agency file stores that may or may not be publicly accessible. The application of metadata and data standards, such as those recommended by [CEQ], to NEPA documents offers a shared vocabulary and structure for key entities like projects, processes and documents that can streamline information exchange and enhance collaboration across systems.

"In this work, we publicly release NEPATEC2.0, an expanded corpus of public NEPA documents with associated metadata" that includes more than 120,000 documents from 60,000 projects prepared by more than 60 agencies that are modeled to align with CEQ metadata standards, the paper says.

Sheridan says the publicly available, "farm-to-table" data is free of bias, free of errors and allows users to "start building tools that leverage data in ways that haven't been possible before."

Users can sift through the documents to find existing projects by geographic location, agency and many other factors, instead of needing to look through thousands of individual NEPA reviews, he says.

This will allow practitioners to quickly generate initial document gathering and quickly summarize the work, he explains.

Permit AI will also be able to help with public engagement and for public comment, according to Sheridan. "The idea is to be more thorough and faster" when "understanding and summarizing and extracting key information from complex documents," which has been "very labor intensive," he says. "Having a tool like this is a huge advancement in time

and resources." Instead of having an analyst read four or five EIS reviews, the metadata means someone can easily find projects that meet the criteria of their specific project. The data is free and can be used by government, private industry and the public, he notes. Soon, Sheridan believes AI will be used as template to write boilerplate language in NEPA reviews, and cites a tool from **wildfires.org** that acts as a "mad lib" to similarly create faster NEPA documents.

And while he says there are always some concerns with AI, "I don't have as many . . . at this stage" of a NEPA review, particularly with the Permit AI metadata, which is based on "trusted data" that was sourced and "correct enough to be published" in actual NEPA reviews that passed legal muster.

This is also first-level work before a human reviews it and is not being used to make a decision but to "summarize for someone to take action on. . . . It is helpful for the siting and design phase."

Private Industry, Public Engagement
Private sector firms are also working on AI in NEPA. For example, Jacobs, a major engineering firm, is developing AI engagement tools, according to Fred Wagner, principal environmental advisor at the company.

He says Jacobs is building "AI Engage," a tool where common themes, concepts, information provided and various points of view including opposition, neutral and in favor, can be "categorized in response to public comments," which "helps understand the organizations submitting public comments and helps the agency understand concerns and interests from the perspectives of key stakeholders and likely stakeholders," even if not in response to formal comments, he explains.

The public engagement tool is being built in the face of "uncertainty" about new NEPA procedures at agencies, where CEQ has rescinded its rules and directed agencies to issue their own non-binding implementation guidance.

Wagner says other firms are also developing similar tools not just to collate and address comments but also to "elevate key issues of concern" so a private entity working with an agency "can tie tougher the most concerns with the analysis." Such a tool can find "something the agency thought was not a big deal" but "comes up over and over again in public engagement."

Further, he says in addition to the PNNL project and efforts to use AI for NEPA document templates, private firms want to find ways to use AI "to improve scoping" for EIS documents and larger-scale EAs.

Federal Register scoping notices have been open-ended, in the tell-us-what-you-think format, he says. "What we're contemplating doing, with scoping through AI, is trying to identify things already done in and around a project area or adjacent to" the area.

For example, if there is a concern about an endangered species, AI could be used to get information about the species' habitat and its stressors. "We can focus in on the area of a NEPA analysis that can get the most attention. It's what we've been trying to do for years, and AI gives us the potential to do it better."

He agrees the work will "absolutely have the benefit of speeding reviews, if done properly." However, Wagner voices caution about the PNNL project and any effort to rely on older NEPA reviews as templates. If the goal is to write much shorter documents, then looking at EIS and EAs from the past may not be the way go, though he agrees that there is "beneficial" information in them to be used. "But a template for how they should be written may not be as powerful now as six months ago," he says. The information is still important but the format less so.

Reform Still Needed
Wagner and others believe permitting reform is still needed, particularly legislation that will advance technology-driven permitting reviews and ensure a level playing field for all types of projects, rather than bills trying to favor the energy policies of a particular administration.

Breakthrough Institute's Marc Levitt agrees, and is hoping the Peters-Johnson bill becomes law. He says its requirements to harmonize data across federal agencies would go a long way toward simplifying environmental reviews, according to **a Sept. 22 article in *Heatmap***that he co-wrote backing the bill.

And Andy Bockis, an attorney at Saul Ewing, agrees that Congress needs to act in an energy-neutral way to allow permits to be issued faster, rather than try to advance favored renewables or fossil projects.

Business is "looking to reduce bottlenecks and help eliminate as much uncertainty" as possible and there is "a recognition among certain legislatures" that permitting "needs to be energy neutral," he says. -- *Dawn Reeves* (**dreeves@iwpnews.com**)