May 31, 2022

Josh Campbell, Project Manager
City of Seattle, Seattle Public Utilities

Via email: josh.campbell@seattle.gov

Regarding: Categorical Exemption from SEPA Threshold Determination
SPU Tolt Early Warning System
Various locations in Unincorporated King County and the Cities of Seattle and Carnation.
PBS Project 41747.000

SUMMARY OF PROPOSED ACTION

Seattle Public Utilities (SPU) owns and operates the Tolt Dam as a major asset of the City of Seattle's municipal drinking water supply system. The Tolt Dam Early Warning System (TEWS) is a critical life safety system that alerts residents in and around the City of Carnation of an imminent dam breach or failure at the Tolt reservoir. The current system is failing, resulting in one false alarm and two missed messages so far. The existing system is outdated and its components cannot be rehabilitated to provide operational stability and will need to be replaced. Failure to address this emergency could result in a catastrophic loss of life in the event of an actual dam failure.

SPU plans to replace outdated equipment and enhance the resiliency and reliability of the TEWS in two phases. The following sections give an overview of the project scope and identify documents supporting permitting and environmental assessments. The following documents were referenced in environmental documentation and permit applications:

Basis of Design Report (BODR)
SPU TEWS Plan Review

Project Purpose and Description

The existing warning system was constructed in approximately 1985 and modified several times in the following years. Three recent tests documented failures in the system, specifically:

1) During late morning of Tuesday, July 28th, the Tolt Dam Warning System sounded a false alarm that for 38 minutes erroneously messaged the community of Carnation to evacuate. SPU activated the Federal Energy Regulatory Commission (FERC) South Fork Tolt Project Emergency Action Plan {Tolt EAP) and attempted to notify the public and partner agencies of the false alarm. A map of siren locations is included below. An investigation into the cause of the false alarm was started immediately after the incident and is ongoing. In the days immediately following the false alarm, SPU used the contacts listed in the Tolt EAP along with intergovernmental and executive contacts, SPU provided updates regarding the status of the Tolt Dam Failure Warning System to response partners and communities. On August 3rd, representatives from SPU/SCL and partner agencies participated in a Tolt Dam Warning Siren 32 Community Meeting hosted by the Carnation City Council to discuss the ongoing investigation of the incident, listen to the community impacts due to the false alarm and reports from the public and

downstream agencies regarding the operational status of the warning system. On Wednesday, August 5th, a subsequent test of the Tolt Dam Failure warning system informed and verified to SPU that repairs were needed for several sirens. Agencies involved in the response included SPU, SCL, Seattle Information Technology, KCOEM, King County Department of Natural Resources, KCSO Communications and Patrol Operations, NORCOM, ESF-R, RVSD, and the City of Carnation.

2) On September 9, 2021, during the weekly scheduled system test the alarm was triggered, but the warning sirens (main alert for the general public) did not go off. On January 13, 2021 the weekly scheduled test of the system resulted in another alarm failure.

3) The false alarm and subsequent failed weekly tests are an indication of wider system failure and existing equipment requires replacement as soon as possible to avoid further failures. The TEWS alerts the residents of the City of Carnation and surrounding unincorporated areas to evacuate in the event of imminent dam failure.

If the system does not function properly there could be a catastrophic loss of life in the event of an actual dam failure. Potential problems and issues identified in the existing system include outdated components no longer supported by the manufacturers and old technology with security vulnerabilities that could result in a system shutdown from a single point of failure.

The purpose of this project is to respond to this emergency by: replacing and update the existing warning system; replacing and adding outdoor mounted sirens, and indoor mounted alerting devices; adding new highway message signs; upgrading existing radio equipment that supports the warning system; and supplementing, as needed, with additional sites and signage.

Assumptions

The following assumptions are used throughout the design process to limit the scope of the project:

- There are no changes to the existing Supervisory Control and Data Acquisition (SCADA) system used by SPU to operate and monitor systems at the Tolt Project or other locations.
- The existing connections to the current siren system located in the Seattle City Light (SCL) powerhouse will not change and are out of scope.
- There are no changes associated with any of the dam monitoring or other failure detection equipment proposed as part of this project.
- The interfaces from the existing SPU SCADA will remain the same.

Public Notice

This entire process has had significant public engagement including:

- Regular presentations at the Carnation City Council meetings
- Regular public engagement meetings where the project has been explained and the public has had an opportunity to ask questions and make comments
- A project website, mailings to the community, newspaper notices, and public access to the project manager so the public can ask questions and make comments

PROJECT DETAILS AND LOCATIONS

The current system includes several components: detection devices at the dam site, verification cameras, microwave communication links between the site and the remote-control rooms, data network connections to the

King County INet, outdoor warning sirens downstream along the Tolt River and in Carnation town center, indoor sirens in school and fire station buildings, siren controls in the two SPU control centers, added electronic highway message signs and added street evacuation signs.

The detection devices, cameras, and indoor sirens will be located within existing facilities, and will not require additional land clearing or construction of a building or structure. As a result, these elements will not be further discussed in this narrative. The remaining project elements consist of pole-mounted outdoor warning sirens, highway message signs, radio and microwave relay stations, and evacuation signs.

Outdoor Warning Sirens (OWS)

The OWS will provide an audible warning in the event of a dam break. Each OWS installation consists of an outdoor warning siren alarm (approximately 5'-5" tall, mounted on top of a pole extending 30' above the ground) with a VHF Yagi antenna and internal VHF radio. Each site will include a concrete pad at the base of the pole for maintenance purposes and backup batteries where commercial power is not available or feasible.

The equipment will be mounted on wooden utility poles extending approximately 30 feet above the ground. The poles will be installed in a drilled hole approximately 7 feet deep with no separate foundation.

Temporary poles will be installed adjacent to the permanent pole sites to test the sirens and communications systems before permanent installation. The temporary poles will be located within developed portions of the rights-of-way (ROW) and will sit on the surface supported by an approximately 5-foot square base. No foundation or bored hole will be required, and a minimum of vegetation clearing and surface leveling will be done to prepare the area. Siren location and work area footprints are provided in the attachments.

Highway Message Signs (HMS)

The reader-board type of HMS will provide a visible warning to drivers on SR 203 and several King County roads that connect to SR 203. In the event of a dam failure, the HMS activates with a visible message advising the drivers not to enter the areas anticipated to be flooded by a dam break.

Each HMS installation consists of a digital highway message display and a cabinet that provides control for the sign. Primary power is supplied by a solar panel and battery system. The equipment will be mounted on an 18-foot tall, 12-inch steel post, bolted to a concert foundation approximately 2' 6" in diameter in size and 10 feet deep. A communications antenna is mounted on the pole, near the top.

Evacuation Route Signage

The added Evacuation route signage proposed by King County Emergency Management for public safety will consist of a single static sign mounted on standard street sign poles (similar to stop signs and speed limit signs) embedded directly in the ground or bolted to an existing concrete sidewalk or similar structure. These signs will be located within existing developed road rights-of-way within the municipal limits of the Cities of Carnation and Duvall and also locations within WSDOT and King County road Rights-of-Way.

Locations

OWS

- OWS 1 (replacement pole): King County, on the south side of N 80th; approx. 700 feet west of 361st Ave NE;

- OWS 2 (replacement pole): King County, on the east side of Tolt River Road, approx. 500' south of NE 69th St;
- OWS 3ex (existing pole to be removed): King County, on the north side of Tolt River Road, approx. 1,800 feet east of 338th Ave NE;
- OWS 3 (replacement pole): King County, on the east side of Tolt River Road;
- OWS 4 (replacement pole): City of Carnation, approximately 220 feet north of Entwistle Street and 225' west of 325th Avenue NE, on PSE ROW;
- OWS 5 (new pole): King County, in the gravel parking lot of at Tolt Vista House Parking Lot, off of Tolt Reservoir Road and NR 6270;
- OWS 6 (new pole): King County, to the south of the regulating basin, in the existing transmission line easement to the south of Tolt River South Fork Road;
- OWS 8 (new pole): City of Carnation, on the south side of Tolt River Road NE, approx. 100 feet west of 334th Ave NE;
- OWS 9 (new pole): King County, at the southwest corner of the intersection of NE 60th Street and SR 203; and
- OWS 10 (new pole): King County, on the north side of NE 40th Street, immediately south of the parking lot for Tolt McDonald Park Soccer Field.

OWS locations and work area footprints are provided in the attachments.

HMS

- HMS 1 (new pole): King County, at southwest corner of the intersection of NE Carnation Farm Road and SR 203 (HMS 1); and
- HMS 2 (new pole): King County, on the east side of SR 203, north of NE 32nd Street;
- HMS 3 (new pole): King County, at the southeast corner of the intersection of NE Tolt Hill Road and West River Road.
- HMS 4 (three new poles): King County, at the northeast, northwest and southwest corners of the intersection of SR 203 and NE 124th St.
- HMS 5 (new pole): King County, at the southeast corner of the intersection of NE Tolt Hill Road and West River Road.
- HMS 7 (new pole): King County, at the northwest corner of the intersection of SR 203 and NE Stillwater Road; and
- HMS 8 (new pole): King County, at the northeast corner of the intersection of SR 203 and E 24th St/Langlois Lake Road.

HMS locations and work area footprints are provided in the attachments.

Other Structures

- Queen Anne Hill (replace equipment on existing tower): Seattle, Observatory Courts Park,1410 1ST AVE N;
- Passive Antenna (replace equipment on existing tower): King County, north of Tolt Reservoir Road north of Tolt Vista House; and
- PSERN SWAN (new antenna on existing tower): King County, located on the existing tower at the southeast corner of the intersection of NE North Fork Road and Swan Loop Road.

Evacuation Route Signage

Signage locations and example construction details are provided in the attachments. Each sign would have a footprint of approximately 0.12 square feet, and posts with no foundation are typically considered structure and not fill.

IMPACTS

The majority of the new structures will be placed within existing developed and/or maintained road facilities. Some tree trimming and vegetation clearing will be required to maintain line-of-sight communications within the network, allow for the installation of the poles, and to minimize potential future damage to the antennas due to falling tree limbs.

The only exceptions to this are the outdoor warning siren and access improvements at OWS 6, which is outside the edge of the existing gravel and spall maintenance road for power lines at the site.

The following table identifies the pole or structure installation, the extent of work, and relevant critical areas.

Table 1. Impacts by Critical Area

Facility	Jurisdiction	WSDOT ROW?	Area of Disturbance (Square Feet)	Volume of Fill (Cubic Yards)	Affected Areas				
					Shorelines	Wetlands	Streams	Steep Slopes	Buffers
Outdoor Warning Sirens									
OWS 1	*King County*	-	100	1.8	Exempt (Conservancy)	-	-	-	Previously developed area of ROW
OWS 2	*King County*	-	100	1.8	-	-	-	-	"
OWS 3 Ex	*King County*	-	100	1.8	-	-	-	-	"
OWS 3 New	*King County*	-	100	1.8	-	-	-	-	"
OWS 4	*City of Carnation*	-	100	1.8	-	-	-	-	"
OWS 5	*King County*	-	-	-	-	-	-	-	In previously developed gravel parking lot
OWS 6	*King County*	-	1,500	1.8	-	-	-	-	1,500 SS buffer
OWS 8	*City of Carnation*	-	100	1.8	-	-	-	-	Located within roadside planting strip for development
OWS 9	*King County*	-	100	1.8	Residential	-	-	-	"
OWS 10	*King County*	-	100	1.8	Conservancy	-	-	-	"

Facility	Jurisdiction	WSDOT ROW?	Area of Disturbance (Square Feet)	Volume of Fill (Cubic Yards)	Affected Areas				
					Shorelines	Wetlands	Streams	Steep Slopes	Buffers
Highway Message Signs									
HMS 1	*King County*	No	100	1.8	Resource	-	-	-	Previously developed area of ROW
HMS 2	*King County*	Yes	100	1.8	Conservancy	-	-	-	"
HMS 3	*King County*	Yes	100	1.8	Resource	-	-	-	"
HMS 4 (3 signs)	*King County*	Yes	100	1.8	Conservancy, Resource	-	-	-	"
HMS 5	*King County*	No	100	1.8	-	-	-	-	In previously developed gravel parking area
HMS 7	*King County*	Yes	100	1.8	-	-	-	-	"
HMS 8	*King County*	Yes	100	1.8	-	-	-	-	Previously cleared area of ROW
Other Facilities									
Queen Anne Hill	*Seattle*	No	-	-	-	-	-	-	Previously developed Site
Passive Antenna	*King County*	No	-	-	-	-	-	-	Within previously developed tower site with access road
PSERN SWAN	*King County*	No	-	-	-	-	-	-	Within previously developed tower site with access road

Facility	Jurisdiction	WSDOT ROW?	Area of Disturbance (Square Feet)	Volume of Fill (Cubic Yards)	Affected Areas				
					Shorelines	Wetlands	Streams	Steep Slopes	Buffers
Evacuation Route Signage									
Various locations	*King County, Carnation, Duvall*	Yes	-	-	-	-	-	-	Located in existing roadway prism.
Total			**3,000**	**28.8**					

DETERMINATION

PBS conducted a review of this proposed action for purposes of determining compliance with SEPA and has determined the action is exempted from a threshold determination under provisions of SEPA as established under RCW 43.21C, WAC 197-11-800, and King County Code (KCC) 20.44.040. As per KCC 20.44.040.A, King County has adopted the standards and procedures specified in WAC 197-11-300 through 197-11-390 and 197-11-800 through 197-11-890 for determining categorical exemptions and making threshold determinations. Specifically, the proposal is exempt per WAC 197-11-800(2)(c) (Other minor new construction, which includes "the construction or installation of commercial on-premise signs, and public signs and signals, including those for traffic control and wayfinding") and KCC 20.44.040.A(1)(e) because the total project work consists of less than five hundred cubic yards of fill or excavation.

The proposed action will comply with requirements of other applicable permits and approvals. Should the proposed action change such that it is no longer considered exempt from SEPA, then the proposed action will be re-examined to determine the appropriate level of SEPA review or whether other SEPA exemption provisions apply.

We trust this letter has been responsive to your request. If you need additional information, please feel free to contact me at 206.766.7618 or via email at Patrick.Togher@pbsusa.com with any questions or comments.

Sincerely,

Patrick J. Togher

Patrick J. Togher (Jul 25, 2022 13:11 PDT)

Patrick J. Togher
Senior Scientist/Project Manager

cc:

Attachment(s):

PTogher: MPhillips:KDeMmonin

TEWS SEPA Categorical Exemption Letter 20220531

Final Audit Report 2022-07-25

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