APPENDIX C
TUOLUMNE WILD AND SCENIC RIVER SECTION 7 DETERMINATION

The Section 7 evaluation for the Hetch Hetchy Communication System Upgrade Project is based on guidance provided in the Wild and Scenic Rivers Act: Section 7 Technical Report (Interagency Wild and Scenic Rivers Coordinating Council). The direct and adverse evaluation procedure is carried out for water resources projects licensed by the Federal Energy Regulatory Commission or other federally assisted water resources projects within the Wild and Scenic River Boundary of the designated river. The O'Shaughnessy Stream Gauge site, one of 32 sites that is part of the Proposed Action, is located within the banks of the Tuolumne River in Yosemite National Park within a segment of the river that holds scenic classification. Although the Tuolumne Wild and Scenic River Comprehensive Management Plan is still under development, this Section 7 determination process applies only to the O'Shaughnessy Stream Gauge site, as it is the only site that occurs in the bank of the Tuolumne River.

Table C-1
Section 7 Evaluation for the Hetch Hetchy Communication System Upgrade Project

Evaluation Criteria	Project Data
Define the Proposed Activity	
Project Proponent	San Francisco Public Utilities Commission (SFPUC), National Park Service – Yosemite National Park, United States Forest Service – Stanislaus National Forest
Geographic location of the project	The project sites are located in Stanislaus and Tuolumne counties. The O'Shaughnessy Stream Gauge site is located within the Lake Eleanor United States Geological Survey (USGS) Quad and 01N 20E Township and Range.
Project Description	The purpose of the proposed Hetch Hetchy Communication Systems Upgrade Project is to: 1) vacate the 2 GHz band per Federal Communications Commission (FCC) requirements; 2) replace and upgrade the aging communications system with an improved system; 3) provide the video and radio bandwidth to allow for future installation of voice radio systems, which could expand system coverage in the O'Shaughnessy, Cherry Lake, and Lake Eleanor areas above existing coverage; 4) provide the foundation infrastructure for housing NPS and FS communications equipment associated with their separate communications systems; and 5) provide the foundation infrastructure that could be used in the future to integrate HHW&P communication system with NPS, and FS communications.
Duration of the proposed activities	The proposed upgrade at the O'Shaughnessy Stream Gauge will take approximately one week. The contractor's initial survey of the site and end-of-project testing will not occur contiguously with the installation work, but may occur during the estimated 18-month construction period.

Table C-1 Section 7 Evaluation for the Hetch Hetchy Communication System Upgrade Project	
Evaluation Criteria	**Project Data**
Magnitude and/or extent of the proposed activities	The O'Shaughnessy Stream Gauge site would involve the installation of a rigid galvanized steel conduit antenna mast that would support a solar panel and a Yagi antenna on top of the existing stream gauge structure. The work would occur on the exterior of the building and necessitate interior electrical work.
Mitigation	Mitigation is incorporated into the Proposed Action. Please refer to Section 4.0 for mitigation measures incorporated into the Proposed Action.
Relationship to past and future management activities	The Proposed Action is subject to the 1980 Yosemite General Management Plan and the Stanislaus Forest Plan, as Amended.
Describe Whether the Proposed Activity Will Directly Alter Within-Channel Conditions	
The position of the proposed activity relative to the streambed and streambanks	Proposed upgrades at each of the Hetch Hetchy Communication System Upgrade Project sites are out of the Tuolumne River streambed and streambanks with the exception of the existing O'Shaughnessy Stream Gauge, which is located on the bank of the Tuolumne River.
Navigation of the river	Due to restriction applied through Park policy, river navigation is not applicable to the O'Shaughnessy Stream Gauge area of the Tuolumne River.
Any likely resulting changes in:	
Active channel location	No.
Channel geometry (cross-sectional shape, width, depth characteristics)	No.
Channel slope (rate or nature of vertical drop)	No.
Channel form (straight, meandering, or braided)	No.
Relevant water quality parameters (turbidity, temperature, nutrient availability)	The proposed upgrade at the O'Shaughnessy Stream Gauge would not result in turbidity, temperature, or nutrient availability impacts to the river. The Stream Gauge itself would not be altered; the proposed upgrade involves the installation of a rigid galvanized steel conduit antenna mast that would support a solar panel and a Yagi antenna on top of the existing stream gauge structure. All work would take place above the water surface.
Describe Whether the Proposed Activity Will Directly Alter Riparian and/or Floodplain Conditions	
The position of the proposed activity relative to riparian area and floodplain	The O'Shaughnessy Stream Gauge site is located within the bed and banks of the Tuolumne River.
Any likely resulting changes in:	

Table C-1 Section 7 Evaluation for the Hetch Hetchy Communication System Upgrade Project	
Evaluation Criteria	**Project Data**
Vegetation composition, age structure, quantity, or vigor	No vegetation would be removed at the O'Shaughnessy Stream Gauge site for the Proposed Action.
Relevant soil properties such as compaction or percent bare ground	The proposed action would not result in soil compaction or exposing bare ground.
Relevant floodplain properties such as width, roughness, bank stability, or susceptibility to erosion	The O'Shaughnessy Stream Gauge does not constrict the flow of the Tuolumne River. The proposed upgrade at this site would not result in changing the natural floodplain properties.
Describe Whether the Proposed Activity Will Directly Alter Upland Conditions	
The position of the proposed activity relative to the uplands	The Proposed Action is not located in the uplands and would not directly alter upland areas.
Relevant hydrologic properties such as drainage patterns or the character of surface and subsurface flows	The Proposed Action would not result in net new impermeable surfaces such that drainage patterns or the character of surfaces and subsurface flows would change. The proposed upgrade would result in the addition of an antenna to the existing stream gauge.
Potential changes in upland conditions that would influence archeological, cultural, or other identified significant scenic values	The O'Shaughnessy Stream Gauge site would involve the installation of a rigid galvanized steel conduit antenna mast that would support a solar panel and a Yagi antenna on top of the existing stream gauge structure. This would not influence archeological, cultural, or significant scenic values in uplands of the Tuolumne River.
Any likely resulting changes in:	
Vegetation composition, age structure, quantity, or vigor	No.
Relevant soil properties such as compaction or percent bare ground	No.
Evaluate and Describe Whether Changes in On-Site Conditions Can or Will Alter Existing Hydrologic or Biological Processes	
The ability of the channel to change course, re-occupy former segments, or inundate its floodplain	The project would not have any affect on the ability of the channel to change course, re-occupy former segments, or inundate its floodplain.
Streambank erosion potential, sediment routing and deposition, or debris loading	The project would not have any affect on the streambank erosion potential, sediment routing and deposition, or debris loading.
The amount or timing of flow in the channel	The project would not affect the amount or timing of flow in the Tuolumne River.
Existing flow patterns	The project would not affect existing flow patterns in the Tuolumne River.
Surface and subsurface flow characteristics	The project would not change surface and subsurface flow characteristics.

Table C-1 Section 7 Evaluation for the Hetch Hetchy Communication System Upgrade Project	
Evaluation Criteria	**Project Data**
Flood storage (detention storage)	The project would not have any measurable effect on river flood storage capability.
Aggregation and or degradation of the channel	The project is not expected to have a measurable effect on aggregation or degradation of the Tuolumne River channel properties.
Amphibian/mollusk needs	The project is not expected to have any measurable effect on amphibian/mollusk needs.
Species composition (diversity)	The project is not expected to have any measurable effect on species composition or diversity.
Biological Processes Such As:	
Reproduction, vigor, growth, and/or succession of streamside vegetation	There will be no brush clearing or removal of vegetation in the vicinity of the project site. The project is not expected to result in reduced streamside vegetation.
Nutrient cycling	The project is not expected to have an effect on the nutrient cycling process.
Fish spawning and/or rearing success	The project is not expected to have any effect on fish spawning and/or rearing success because the proposed upgrade occurs on land and on the existing stream gauge. All work would take place above the water surface.
Riparian-dependent avian species needs	The project is not expected to have any effect on riparian-dependent avian species needs.
Estimate the Magnitude and Spatial Extent of Potential Off-Site Changes	
Consider and Document:	
Changes that influence other parts of the river system	The project does not propose any actions that would change or influence other parts of the river system.
The range of circumstances under which off-site changes might occur (for example, as may be related to flow frequency)	The project does not propose any actions that would result in off-site changes.
The likelihood that predicted changes will be realized	There are no predicted off-site changes as a result of implementation of this project.
Specify processes involved, such as water and sediments, and the movement of nutrients.	Natural hydrologic processes along Tuolumne River would not be enhanced or degraded as a result of the Proposed Action.
Define the Time Scale Over Which the Above Effects Are Likely to Occur	
Review the above effects, looking independently at the element of time. Define and document the time scale over which the effects will occur	As noted above, the Proposed Action would have no effect on the river system, banks, floodplain, or upland area. Installation of the new antenna would occur on one week day. The contractor's initial survey of the site and end-of-project testing will not occur contiguously with the installation work, but may occur during the estimated 18-

Table C-1 Section 7 Evaluation for the Hetch Hetchy Communication System Upgrade Project	
Evaluation Criteria	**Project Data**
	month construction period.

EFFECTS OF THE PROPOSED ACTION ON OUTSTANDINGLY REMARKABLE VALUES

The Proposed Action, specifically the proposed upgrade at the O'Shaughnessy Stream Gauge would result in the installation of a new antenna on the existing stream gauge structure. The free-flowing character of the Tuolumne River would not be reduced as a result of the O'Shaughnessy Stream Gauge site upgrade. An assessment of the Proposed Action's effects specific to the O'Shaughnessy Stream Gauge site on Outstandingly Remarkable Values is provided in Table C-2.

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The Proposed Action includes the installation of an antenna to the existing O'Shaughnessy Stream Gauge structure. Free flow and natural fluvial processes would not be impacted as a result.

Table C-2 Effects of the Proposed Action on Outstandingly Remarkable Values in Segment 5 of the Tuolumne Wild and Scenic River Corridor	
Outstandingly Remarkable Value	**Effects of the Proposed Action**
Ecologic - From the alpine headwaters of the Tuolumne River, through the river's steep descent into the Sierra Nevada foothills, interactions among geologic, hydrologic, and biologic processes sustain a rare diversity of robust, interrelated, and largely intact ecosystems. The entire river corridor is either within or surrounded by designated Wilderness, which protects the ecological integrity of these systems. The unusual extent and influence of glaciation in the Tuolumne River corridor has resulted in extensive low relief areas, primarily meadows, separated by steep sections of river flowing over bedrock. This stairstep morphology, in combination with exceptional water quality, a seasonal flood regime, and a largely undisturbed river corridor, sustains systems that are remarkable in their size and diversity: • Tuolumne Meadows, Dana Meadows, and the meadows along the Lyell Fork comprise one of the largest and most extensive subalpine meadow/wetland complexes in the Sierra Nevada. In addition, the lower elevation meadow/wetland complex at Poopenaut Valley is unique in its relative lack of human impact and	The proposed upgrade at the O'Shaughnessy Stream Gauge site would have no effect on the ecological resources of the river. The upgrade involves the installation of an antenna on the existing stream gauge. All work would take place above the water surface. There would be no site disturbance or removal of vegetation.

Table C-2
Effects of the Proposed Action on Outstandingly Remarkable Values in Segment 5 of the Tuolumne Wild and Scenic River Corridor

Outstandingly Remarkable Value	Effects of the Proposed Action
development compared to other low-elevation riparian areas in the Sierra Nevada. These meadow systems sustain an exceptional diversity of river-related habitat types. • Dramatic stairstep river morphology creates highly diverse river canyon communities below Tuolumne Meadows and below Hetch Hetchy Reservoir. Spectacular systems of falls, cascades, basins, riffles, and pools bounded by towering cliffs contribute to a remarkable diversity of largely intact habitat types.	
Sociocultural - The Tuolumne River's unique combination of prehistoric, historic, scenic, and recreational values distinguishes it from other rivers in the Sierra Nevada and throughout the nation. The sociocultural values of the Tuolumne River corridor extend back at least 6,000 years and span generations of diverse groups of people. Visible evidence testifies to the evolving importance of the river corridor as a seasonal hunting and gathering ground, a trans-Sierra trade and travel route, a destination for recreation and leisure, and a place to connect with nature in a wilderness setting. From prehistoric through modern times, people have developed powerful and enduring relationships with the Tuolumne River corridor. The corridor plays a significant role in maintaining cultural traditions among groups of American Indian people. In a contemporary context, the corridor engenders deep personal connections to the area and figures prominently in the lives, stories, and traditions of generations of visitors.	The proposed upgrade at the O'Shaughnessy Stream Gauge site would have no effect on the sociocultural resources of the river.
Scientific - The largely undisturbed river corridor provides invaluable opportunities to examine ecologic and sociocultural resources with high research value. The entire river corridor is either in or surrounded by designated Wilderness, which is critical to protecting the integrity and maintaining the scientific value of these resources. • Relatively intact Sierra river ecosystems provide crucial baseline data and basic information on how components of such natural ecosystems interact and respond to perturbation (e.g., climate change, decline of special-status species).	The proposed upgrade at the O'Shaughnessy Stream Gauge site would not disturb the river corridor and would have no effect on the scientific value of the river.

Table C-2 Effects of the Proposed Action on Outstandingly Remarkable Values in Segment 5 of the Tuolumne Wild and Scenic River Corridor	
Outstandingly Remarkable Value	**Effects of the Proposed Action**
• Some of the best evidence of glacial processes in the Sierra Nevada occurs along the river corridor. • Well-preserved prehistoric and historic archeological resources within the river corridor provide outstanding opportunities to research trade, travel, subsistence, and technological change that occurred over thousands of years.	
Segment 5: Prehistoric and American Indian Cultural - Pre-contact archeological sites represent possible year-round use by groups of American Indian people and are contributing features to the Hetch Hetchy Archeological District. Prehistoric resources important to the oral traditional history of American Indian people affiliated with the Tuolumne River are also contained within this segment.	The proposed upgrade at the O'Shaughnessy Stream Gauge site does not include any ground disturbance that could potentially result in encountering archeological sites. Mitigation measures are incorporated into the Proposed Action in the event archeological sites or artifacts are encountered.
Segment 5: Historic - Historic landscape features and structures provide evidence of early Euro-American settlement. Specific sites that are either eligible or potentially eligible for listing on the National Register of Historic Places include the Screech Trail and cabin ruins.	The proposed upgrade at the O'Shaughnessy Stream Gauge site would have no effect on historic landscape features and structures in the area.

Recommended:

Superintendent, Yosemite National Park Date

Approved:

Regional Director Pacific West Region, National Park Service Date