PART 4—
UTILITY DISTRICT ANNEXES

CHAPTER 10.
SNOQUALMIE PASS UTILITY DISTRICT ANNEX

10.1. HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact

Terry Lenihan, General Manager
181 Treatment Plant Road
PO Box 131
Snoqualmie Pass, WA 98068
Telephone: (425) 434-6633
e-mail Address: tlenihan@snopass.org

Alternate Point of Contact

Steve Brockett
181 Treatment Plant Road
PO Box 131
Snoqualmie Pass, WA 98068
Telephone: (425) 434-6633
e-mail Address: sbrockett@snopass.org

10.2. JURISDICTION PROFILE

Snoqualmie Pass Utility District was formed in 1984 when the Summit Sewer District and Kittitas County Sewer District 1 were consolidated into a single district operating under RCW Chapter 57. Those original districts were located on opposite sides of the King-Kittitas county line. The joined District operates in both counties to provide water and sewer service to residential and commercial customers. The District is located near the western summit of Snoqualmie Pass along I-90 at an elevation of approximately 3,000 feet, and serves the needs of year-round residents, travelers, and recreational visitors. The area is adjacent to the popular "Summit at Snoqualmie" day-use ski area, with heavy visitation during winter weekends.

A Board of Commissioners consisting of three local citizens elected on a non-partisan basis governs the District. The Commissioners establish policies, set rates, adopt system plans for water and sewer utilities and approve the revenue obligations. In addition, the Commissioners appoint the General Manager. The General Manager is directly responsible to the board of Commissioners and is the Chief Executive of the District.

The following is a summary of key information about the jurisdiction:

- **Population Served—**250 full time and 16,000 peak
- **Land Area Served—**1,785 acres
- **Value of Area Served—**The estimated value of the area served by the jurisdiction is $xxxx
- **Land Area Owned—**7 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**
  - 13.87 miles of water mains, 3 production wells, 3 reservoirs, 5 pressure-reducing-valve stations, with an estimated value of $4,535,740
  - 16.56 miles of sanitary sewer mains, 2 pump stations and 1 treatment plant, with an estimated value of $6,793,258
- **Total Value of Critical Infrastructure/Equipment—**The total value of critical infrastructure and equipment owned by the jurisdiction is $11,328,998
- **List of Critical Facilities Owned by the Jurisdiction:**

  - Wastewater Treatment Plant. Located at 370 Treatment Plant Road, Snoqualmie Pass. Onsite buildings consist of the Treatment Plant (3,942 square feet), constructed in 1983, the Headworks building (600 square feet) constructed in 2009 and the Maintenance Shop (4,042 square feet) constructed in 1995 with an addition constructed in 2003. A remote building known as the Pipe Galley, located 1 mile southwest (286 square feet), was constructed in 1983.

- **Total Value of Critical Facilities—**The total value of critical facilities owned by the jurisdiction is $2,214,454.

  Current and Anticipated Service Trends—The District estimates that 250 full-time residents currently live at Snoqualmie Pass, with an additional 500 seasonal residents on a peak winter ski weekend. In addition to residential population, the area has a large transient population, including travelers on I-90 who stop to use facilities at the pass, and day-use winter sports participants. A peak day-use population of 16,000 was estimated for a recent heavy ski year. The District is anticipating a growth rate of 1 percent.

10.3. JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

Table 10-1 lists all past occurrences of natural hazards within the jurisdiction.

10.4. HAZARD RISK RANKING

Table 10-2 presents the ranking of the hazards of concern.

10.5. APPLICABLE REGULATIONS AND PLANS

The following existing codes, ordinances, policies or plans are applicable to this hazard mitigation plan:

- Snoqualmie Pass Utility District Water Comprehensive Plan
- Snoqualmie Pass Utility District Sewer Comprehensive Plan
- Emergency Response Plan
- King County Hazard Mitigation Plan

10.6. CLASSIFICATION IN HAZARD MITIGATION PROGRAMS

The jurisdiction's classifications under various hazard mitigation programs are presented in Table 10-3.

10.7. HAZARD MITIGATION ACTION PLAN AND EVALUATION OF RECOMMENDED INITIATIVES

Table 10-4 lists the initiatives that make up the jurisdiction's hazard mitigation plan. Table 10-5 identifies the priority for each initiative. Table 10-6 summarizes the mitigation initiatives by hazard of concern and the six mitigation types.

TABLE 10-1.
NATURAL HAZARD EVENTS

Type of Event	Date	Preliminary Damage Assessment
Severe Winter Storm And Record And Near Record Snow (DR-1825)	3/2/2009	N/A
Winter Storm (DR 1817)	1/17/2009	$50,000
Severe Winter Storms, Land & Muds Slides, & Flooding, (DR-1159)	1/17/1997	N/A
Severe Storms & Flooding (DR-883)	11/26/1990	N/A
Severe Storms, Mudslides, & Flooding, (DR-545)	12/10/1977	N/A

TABLE 10-2.
HAZARD RISK RANKING

Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Severe Winter Storm	24
1	Earthquake	24
2	Avalanche	6
2	Flood	6
2	Dam Failure	6
2	Wildland Fire	6
2	Landslide	6
3	Volcano	0
3	Tsunami	0
3	Drought	0

TABLE 10-3.
COMMUNITY CLASSIFICATIONS

	Participating?	Classification	Date Classified
Public Protection	No	—	—
Storm Ready	No	—	—
Firewise	No	—	—

TABLE 10-4.
HAZARD MITIGATION ACTION PLAN MATRIX

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
Initiative #SPUD-01-Continue to support the implementation, monitoring, maintenance and updating of this plan.						
New & Existing	All Hazards	2,8,9	SPUD	Low	District funds	Short term/ ongoing
Initiative #SPUD-02—Continue to support through active participation the countywide initiatives identified in Volume 1 of the Kittitas County Hazard Mitigation Plan.						
New and Existing	All Hazards	5,6,9	SPUD	Low	District Funds	Short-term, Ongoing
Initiative #SPUD-03—Develop a continuity of operations plan that looks at sustaining operations following disasters.						
New and Existing	All Hazards	1, 9, 10	SPUD	Low	District Funds, DHS Grant funding	Short term
Initiative #SPUD-04—Partner with other local governments in educating citizens on potential consequences associated with natural hazards and opportunities to mitigate their impacts.						
New and Existing	All Hazards	2, 8, 9	SPUD	Low	District General Fund	Short-term, ongoing

TABLE 10-5.
MITIGATION STRATEGY PRIORITY SCHEDULE

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority[a]
1	3	Medium	Low	Yes	Yes	Yes	High
2	3	Medium	Low	Yes	Yes	Yes	High
3	3	High	High	Yes	Yes	No	Medium
4	3	Low	Low	Yes	No	Yes	Yes

a. See Section 1.3 for definitions of high, medium and low priorities.

TABLE 10-6.
ANALYSIS OF MITIGATION INITIATIVES

	Initiative Addressing Hazard, by Mitigation Type					
Hazard Type	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Avalanche	1,2		1, 2, 4		3	
Dam Failure	1,2		1,2, 4		3	
Drought	—	—	—	—	—	—
Earthquake	1,2		1,2, 4		3	
Flood	1,2		1,2, 4		3	
Landslide	1,2		1,2, 4		3	
Severe Weather	1,2		1,2, 4		3	
Seiche	—	—	—	—	—	—
Volcano	—	—	—	—	—	—
Wildfire	1,2		1,2, 4		3	

1. Prevention: Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
2. Property Protection: Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.
3. Public Education and Awareness: Actions to inform citizens and elected officials about hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.
4. Natural Resource Protection: Actions that minimize hazard loss and preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
5. Emergency Services: Actions that protect people and property during and immediately after a hazard event. Includes warning systems, emergency response services, and the protection of essential facilities.
6. Structural Projects: Actions that involve the construction of structures to reduce the impact of a hazard. Includes dams, setback levees, floodwalls, retaining walls, and safe rooms.

CHAPTER 11.
KITTITAS PUD #1 ANNEX

11.1. HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact

Matthew Boast, Engineering Manager
1400 Vantage Highway
Ellensburg, WA 98926
Telephone: 509-933-7193
e-mail Address: matt.boast@kittitaspud.com

Alternate Point of Contact

Brian Vosburgh, Operations Manager
1400 Vantage Highway
Ellensburg, WA 98926
Telephone: 509-933-7203
e-mail Address: brian.vosburgh@kittitaspud.com

11.2. JURISDICTION PROFILE

Public Utility District (PUD) #1 of Kittitas County is a special purpose district classified as a political subdivision of the state under the laws of the State of Washington. The District was established by a vote of the electorate in 1936, under Chapter 1 of the 1931 laws of the state, for the purpose of engaging in the generation, transmission, distribution and sale of electric energy. The District's service area covers most of Kittitas County and a small portion of Yakima County.

The PUD is governed by a Board of Commissioners, consisting of three local citizens elected by the people of Kittitas County. The Commissioners represent three districts. One commissioner is elected every two years in the November general election to serve a six-year term. Under the guidance of the elected commissioners, the District delivers affordable, dependable electricity to rural and urban areas. The commission establishes policy, approves plans, budgets and expenditures and reviews the District's operations. The legal responsibilities and powers of the District, including the establishment of rates and charges for services rendered, are exercised through the commission. In addition, the Commissioners appoint a General Manager to administer District policies and conduct PUD business. The General Manager is supported by 12 full-and part-time employees.

The District is a statutory preference customer of the Bonneville Power Administration and currently purchases approximately 80 percent of its power from Bonneville. The rest of the District's power is primarily supplied by the Priest Rapids Hydroelectric Project (nearly 15 percent).

The following is a summary of key information about the jurisdiction:

- **Population Served—**8,430 people as of 2009 and based upon the Census Bureau estimate of Kittitas County average household size
- **Land Area Served—**359 square miles
- **Value of Area Served—**The estimated value of the area served by the jurisdiction is $1,094,902,905.
- **Land Area Owned—**15.49 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

  - 13 miles of transmission lines, 490 miles of overhead distribution lines, 190 miles of underground distribution lines, 7 electrical substations and 4 metered points of power delivery with an estimated value of $25,968,494.
  - FCC-licensed radio system for crew dispatching and emergency services and response valued at $65,736.
  - Line Truck, Double Bucket, Service Bucket, Backhoe, Flat Bead, Foreman Truck with an estimated value of $951,966.
- **Total Value of Critical Infrastructure/Equipment—**The total value of critical infrastructure and equipment owned by the jurisdiction is $26,986,196.
- **List of Critical Facilities Owned by the Jurisdiction:**
  - Main Office and Headquarters, located at 1400 Vantage Highway in Ellensburg. The on-site buildings consist of the 2-story main office building (2400 square feet including an records archive and data center in the basement), the engineering / operations building (1345 square feet-remodeled in 2009), and meter shop with attached conference room (1900 square feet-remodeled in 2009), with an estimated value of $917,998.
  - Warehouse and Material Yard, located behind and adjacent to the main office at 1400 Vantage Highway in Ellensburg. These facilities include the vehicle storage building (2400 square feet – constructed in 2008), the material storage yard/loading dock (0.83 acres), the material warehouse (3000 square feet – future plans include replacing, remodeling or expansion of this building). The value of these facilities is estimated to be $118,703.
- **Total Value of Critical Facilities—**The total value of critical facilities owned by the jurisdiction is $1,036,701
- **Current and Anticipated Service Trends—**The Kittitas PUD 2008 Power Requirements Study projects the number of consumers, energy sales and capacity requirements through the end of 2017. This projection anticipates that the PUD will increase by 29 percent. Total energy sales are also projected to increase significantly by 2017. This projected increase is based upon the anticipated increase in consumers coupled with the changing consumption patterns by consumer class.

  Recent economic activity has shown that the power requirements projection may have been a bit high. The 2010 US census reported that Kittitas County has seen a population increase of 22.6 percent in the last 10 years while Washington State increased only 14.1 percent. So a 20 to 25 percent growth rate may be a safer projection.

11.3. JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

Table 11-1 lists all past occurrences of natural hazards within the jurisdiction.

11.4. HAZARD RISK RANKING

Table 11-2 presents the ranking of the hazards of concern.

11.5. APPLICABLE REGULATIONS AND PLANS

The following existing codes, ordinances, policies or plans are applicable to this hazard mitigation plan:

- National Electrical Safety Code

- National Electrical Code
- National Environmental Protection Act
- Federal Endangered Species Act
- Public Utility Regulatory Policy Act
- Washington State Building Code
- Department of Labor and Industries of the State of Washington (Washington Administrative Code 296-45)
- Occupational Safety and Health Administration
- Kittitas County PUD Oil Spill Containment and Countermeasure Plan
- The District must adhere to all applicable codes and regulations enforced by federal, state and local authorities with a sphere of influence within the District service area.

11.6. CLASSIFICATION IN HAZARD MITIGATION PROGRAMS

The jurisdiction's classifications under various hazard mitigation programs are presented in Table 11-3.

11.7. HAZARD MITIGATION ACTION PLAN AND EVALUATION OF RECOMMENDED INITIATIVES

Table 11-4 lists the initiatives that make up the jurisdiction's hazard mitigation plan. Table 11-5 identifies the priority for each initiative. Table 11-6 summarizes the mitigation initiatives by hazard of concern and the six mitigation types.

TABLE 11-1.
NATURAL HAZARD EVENTS

Type of Event	Date	Preliminary Damage Assessment
Floods	2/25/1956	N/A
Floods	3/6/1957	N/A
Severe Storms	10/20/1962	N/A
Floods	3/2/1963	N/A
Heavy Rains & Flooding	12/29/1964	N/A
Severe Storms, Flooding	12/13/1975	N/A
Drought	3/31/1977	N/A
Severe Storms, Flooding	12/10/1977	N/A
Flooding	3/12/1979	N/A
Volcanic Eruption	5/21/1980	N/A
Severe Storms, Thunder	12/24/1980	N/A
Wind	11/14/1981	N/A
Severe Storms, Flooding, Thunder, Wind	1/18/1986	N/A
Winter Weather	2/1/1989	N/A
Severe Storms, Flooding	11/26/1990	N/A
Severe Storms, Thunder	7/24/1991	N/A
Eastern Washington Fires	10/18/1991	N/A
Storms, High Winds, Floods	1/3/1996	N/A
Severe Storms, Flooding	2/9/1996	N/A
Severe Winter Storms, Flooding	1/17/1997	N/A
Earthquake	3/1/2001	N/A
Winter Weather	11/28/2001	N/A
Elk Heights Fire	7/30/2004	N/A
Flooding	5/4/2005	N/A
Hurricane Katrina Evacuation	9/7/2005	N/A
Winter Weather	12/14/2006	N/A
Severe Winter Storm, Landslides, Mudslides and Flooding	1/30/2009	N/A
Severe Winter Storm, Record Snow	3/2/2009	N/A
Vantage Fire		N/A
Severe Storm, Flooding, Landslides	3/25/2011	N/A

TABLE 11-2.
HAZARD RISK RANKING

Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Severe Weather	54
2	Flood	51
3	Wildfire	*36*
3	Drought	36
4	Earthquake	24
5	Avalanche	18
5	Landslide	18
6	Dam Failure	16
6	Volcano / Lahar	16
7	Seiche	0

TABLE 11-3.
COMMUNITY CLASSIFICATIONS

	Participating?	Classification	Date Classified
Public Protection	No	—	—
Storm Ready	No	—	—
Firewise	No	—	—

TABLE 11-4.
HAZARD MITIGATION ACTION PLAN MATRIX

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
KPUD-1—Acquire right of way and relocate distribution structures and facilities out of areas subject to repetitive loss or damage. (Feeders P1, E2, & T1)						
New and Existing	Severe Storm, Flood, Wildfire, Landslide, Avalanche	1,2,7,8,9,10	PUD	High	District Funds, HMGP	Short-term
KPUD-2—Implement a contingency plan to establish a more hazard-resilient electrical system by networking isolated distribution circuits (Feeder Ties S2 to T1, S3 to J1, P3 to V1)						
New and Existing	Severe Storm, Flood, Wildfire, Landslide, Avalanche	1,2,4,7,8,9,10	PUD	Medium	District Funds, HMGP	Short-term
KPUD-3—Implement a vegetation management program (manage all rights of way on a 3 year cycle)						
Existing	Severe Storm, Wildfire	1,9,10	PUD	Low	District Funds, HMGP	Short-term ongoing
KPUD-4—Raise or mitigate substations in floodplain (Ellensburg Substation & Teanaway Substation)						
Existing	Severe Storm, Flood, Earthquake	1,7,8,10	PUD	High	District Funds, HMGP	Long-term, depends on funding
KPUD-5—Continue to support through active participation the countywide initiatives identified in Volume 1 of the Kittitas County Hazard Mitigation Plan.						
New and Existing	All Hazards	All	PUD	Low	District Funds	Short-term ongoing
KPUD-6—Continue to support the implementation, monitoring, maintenance, and updating of this plan, as defined in Volume 1.						
New and Existing	All Hazards	All	PUD	Low	District Funds, HMGP for 5-year update	Short-term ongoing
KPUD-7—Develop a continuity of operations plan that looks at sustaining operations following disasters.						
New and Existing	All Hazards	1, 9, 10	KPUD	Low	District Funds, DHS Grant funding	Long-term, depends on funding

TABLE 11-5.
MITIGATION STRATEGY PRIORITY SCHEDULE

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority[a]
1	6	High	Medium	Yes	Yes	Yes	High
2	7	High	Medium	Yes	Yes	Yes	High
3	3	High	Medium	Yes	Yes	Yes	High
4	4	High	High	Yes	Yes	No	Medium
5	10	Low	Low	Yes	No	Yes	High
6	10	Low	Low	Yes	Yes	Yes	High
7	3	Medium	Low	Yes	Yes	No	Medium

a. See Section 1.3 for definitions of high, medium and low priorities.

TABLE 11-6.
ANALYSIS OF MITIGATION INITIATIVES

	Initiative Addressing Hazard, by Mitigation Type					
Hazard Type	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Avalanche	1, 2, 5, 6, 7	1	5, 6	1	1, 2, 7	—
Dam Failure	1, 2, 5, 6, 7	1	5, 6	1	1, 2, 7	—
Drought	2,5, 6, 7	—	5, 6	—	2, 7	—
Earthquake	2, 5, 6, 7	4	5, 6	—	2, 7	—
Flood	1, 2, 5, 6, 7	1, 4	5, 6	1	1, 2, 7	—
Landslide	1, 2, 5, 6, 7	1	5, 6	1	1, 2, 7	—
Severe Weather	1, 2, 5, 6, 7	1, 3, 4	5, 6	1	1, 2, 7	—
Seiche	—	—	—	—	—	—
Volcano	2, 5, 6, 7	—	5, 6	—	2, 7	—
Wildfire	1, 2, 5, 6, 7	1, 3	5, 6	1	1, 2, 7	—

1. Prevention: Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
2. Property Protection: Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.
3. Public Education and Awareness: Actions to inform citizens and elected officials about hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.
4. Natural Resource Protection: Actions that minimize hazard loss and preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
5. Emergency Services: Actions that protect people and property during and immediately after a hazard event. Includes warning systems, emergency response services, and the protection of essential facilities.
6. Structural Projects: Actions that involve the construction of structures to reduce the impact of a hazard. Includes dams, setback levees, floodwalls, retaining walls, and safe rooms.