

**MINUTES OF THE EIGHTH MEETING
SEWRPC REGIONAL WATER SUPPLY PLANNING ADVISORY COMMITTEE**

DATE: August 30, 2006

TIME: 9:00 a.m.

PLACE: Lower Level Conference Room
Regional Planning Commission Offices
W239 N1812 Rockwood Drive
Waukesha, Wisconsin

MEMBERS PRESENT

Kurt W. Bauer, Chairman	Executive Director Emeritus, SEWRPC
Robert P. Biebel, Secretary	Special Projects Environmental Engineer, SEWRPC
Julie A. Anderson	Director, Racine County Division of Planning and Development
Thomas J. Bunker	General Manager, Water and Wastewater Utility, City of Racine
Douglas S. Cherkauer	Professor of Hydrogeology, University of Wisconsin-Milwaukee
Lisa Conley	Representative, Town and Country Resource Conservation and Development, Inc.
Michael P. Cotter	Director, Walworth County Land Use and Resource Management Department
Charles A. Czarkowski	Regional Water Program Expert, Wisconsin Department of Natural Resources, Southeast Region
Daniel S. Duchniak	General Manager, Waukesha Water Utility, City of Waukesha
Franklyn A. Ericson	Manager, Environmental Operations & Central Services, S.C. Johnson & Son, Inc.
Thomas M. Grisa	Director of Public Works, City of Brookfield
Andrew A. Holschbach	Director, Ozaukee County Planning, Resources, and Land Management Department
Roger C. Johnson	Manager, North Shore Water Commission
Terrence H. Kiekhaefer	Director of Public Works, City of West Bend
Carrie M. Lewis	Superintendent, Milwaukee Water Works, City of Milwaukee
Mark Lurvey	Agricultural Business Operator
Matthew Moroney	Executive Director, Metropolitan Builders Association of Greater Milwaukee
Jeffrey Musche	Administrator/Clerk, Town of Lisbon
Michael P. Rau	General Manager, We Energies-Water Services
Edward St. Peter	General Manager, Water Utility, City of Kenosha
David Schaning (for George A. Torres)	Milwaukee County Department of Public Works
Dale R. Shaver	Director, Waukesha County Department of Parks and Land Use
Daniel S. Winkler	Director of Public Works and Utilities, City of Lake Geneva
Steven N. Yttri	General Manager, Water and Sewer Utility, City of Oak Creek

MEMBERS EXCUSED OR OTHERWISE ABSENT

Kenneth R. Bradbury	Hydrogeologist/Professor, Wisconsin Geological and Natural History Survey
Charles P. Dunning	Hydrologist, U.S. Geological Survey
David Ewig	Water Superintendent, City of Port Washington
Jeffrey A. Helmuth	Hydrogeologist Program Coordinator, Wisconsin Department of Natural Resources, Madison
Thomas J. Krueger	Water and Wastewater Utility Director, Village of Grafton
Patrick T. Marchese	Member, Water Policy Advisory Panel, Public Policy Forum
George E. Melcher	Director, Kenosha County Department of Planning and Development
Paul E. Mueller	Administrator, Washington County Planning and Parks Department
James Surfus	Senior Environmental Engineer, Miller Brewing Company

GUESTS

Ryan T. Amtmann	Strand Associates, Inc.
Randall R. Kerkman	Administrator, Town of Bristol
Steven H. Schultz	Department Head, Water Supply and Wastewater Treatment, Ruekert & Mielke, Inc.
Ben Wood	Strand Associates, Inc.

STAFF

Catherine D. West	Planner, Southeastern Wisconsin Regional Planning Commission
Kenneth R. Yunker	Deputy Director, Southeastern Wisconsin Regional Planning Commission

CALL TO ORDER AND ROLL CALL

Chairman Bauer called the meeting to order at 9:00 a.m. Roll call was taken by circulating an attendance signature sheet, and a quorum was declared present.

CONSIDERATION OF MINUTES OF THE MEETING OF JULY 13, 2006

Chairman Bauer noted that copies of the minutes of the July 13, 2006, meeting of the Regional Water Supply Planning Advisory Committee had been provided, to all members of the Committee for review prior to the meeting, and asked that the Committee consider approval of those minutes.

Chairman Bauer reminded the Committee members that all of the revisions which were requested by the Committee to be made in the materials reviewed at that meeting were intended to be fully documented in the minutes, or in attachments thereto. He reminded the Committee members that approval of the minutes would constitute final approval of Chapter V, "Small Area and Individual Water Supply Systems," of SEWRPC Technical Report No. 43, *State-of-the-Art of Water Supply Practices*. He noted that the approval would, of course, be subject to any comments received today on the minutes and the attachments thereto.

There being no corrections or additions, the minutes of the meeting of July 13, 2006, were approved as submitted on a motion by Mr. Grisa, seconded by Mr. Musche, and carried unanimously.

CONSIDERATION OF CHAPTER IX, “PLANNING AND DESIGN STANDARDS,” OF SEWRPC TECHNICAL REPORT NO. 43

Chairman Bauer asked the Committee to consider Agenda Item 3. He noted that all Committee members had received a copy of Chapter IX of SEWRPC Technical Report No. 43 for review prior to the meeting. He then asked Mr. Schultz to review the chapter with the Committee on a page-by-page basis. The following questions were raised, comments made, and actions taken in the course of the review.

Mr. Grisa questioned the rationale for the water use data analysis years of 2000, 2004, and 2005. Mr. Biebel responded that the base year of the water supply planning program was the year 2000, since accurate data on population and household levels, and on existing land uses was available for that year to correlate with water use data. He noted that the year 2005 data were included because that year was marked as a relatively dry year which could be expected to result higher annual average water use. In contrast, the year 2004 was a relatively wet year, he said, which could be expected to result in lower annual average water use—thus, placing the year 2000 data in context. Mr. Grisa recommended, and it was generally agreed, to add text explaining the year for which water use was analyzed.

[Secretary’s Note: Text has been added regarding the basis for the selection of the years for which water use data were analyzed at the end of the first full paragraph on page 2 (now page 3). The text is incorporated into the revised version of Chapter IX attached to these minutes.]

Ms. Lewis questioned the per capita residential water use data, noting that the water use reporting did not include residents living in most multi-family buildings. She noted that Milwaukee County would likely have the highest percentage among the counties of residents living in multi-family housing units. Mr. Biebel agreed with Ms. Lewis that Milwaukee had the highest percentage of multi-family residents, indicating it was about 21 percent versus 11 to 17 percent in the other counties. However, he indicated that the calculations of residential water use on a per capita and per acre basis were normalized between counties by utilizing in the analyses only the resident population and residential land uses associated with single- and two-family housing units.

Ms. Conley noted that the water use factors being developed would be applied to new development. She suggested that those residential water use rates may be lower than the current existing residential water uses because of the use of water-saving plumbing fixtures, and she asked this be considered in the analyses. Mr. Schultz indicated that the chapter of the report on water conservation would make recommendations on how to adjust the existing water use data to reflect the affects of water conservation measures on future use. Mr. Biebel indicated that the water uses were reported by community, and that there was not a good way to evaluate new versus old residential water uses. He indicated that the staff would, however, review the data on a community basis to see if a pattern was evident.

[Secretary’s Note: A review of the community data indicates no trend in water use between older and new development areas (see Table 1). The two entirely new water systems in the Region serving the Pell Lake Sanitary District and the Town of Geneva Lake Como Sanitary District No. 1 do have relatively low per capita residential water uses of 43 to 59 gallons per capita per day (gpcd). However, those systems were recently constructed in fully developed existing residential areas with very small lots and modest homes, and not typical of new development expected in the Region. In most other areas, it appears that the older, established communities have a lower residential per capita water use than communities with larger amounts of new development.

This points out the complexity of the factors which influence residential water uses, such as lot sizes, home values, family incomes, household sizes, and household fixture types and numbers. The data indicate that new residential development would, under current trends, typically be likely to have a higher per capita water use than the current average water use rates associated with existing development.

Table 1

EXAMPLE PER CAPITA RESIDENTIAL WATER USES FOR SELECTED COMMUNITIES: 2004 AND 2005

Community	2004 (gallons per person per day)	2005 (gallons per person per day)
Kenosha County		
City of Kenosha (O).....	59	66
Village of Pleasant Prairie	76	91
Milwaukee County		
City of Milwaukee (O)	68	70
City of Oak Creek (N)	76	71
City of Franklin (N).....	65	103
Ozaukee County		
City of Port Washington (O).....	60	60
City of Cedarburg (O)	71	75
Village of Belgium (N).....	48	53
City of Mequon (N)	77	77
Racine County		
City of Racine (O)	60	65
Village of Caledonia (N).....	53	95
Walworth County		
City of Elkhorn (O)	47	70
Pell Lake Sanitary District (N).....	43	55
Lake Como Sanitary District (N)	53	59
Washington County		
Village of Hartford (O).....	52	62
Village of Jackson (N).....	56	78
Waukesha County		
City of Waukesha (O)	57	60
City of Oconomowoc (O)	68	79
City of Pewaukee (N).....	78	94

NOTE: (O) indicates older development community and (N) indicates newer development community.]

Mr. Bunker pointed out the drop in industrial uses between 2000 and 2005, as shown in Tables IX-2, IX-3, and IX-4. He noted that any assumptions made on water conservation should be carefully considered in that light.

Mr. Grisa reported that the City of Brookfield had tracked residential water uses, and that over 15 years, the water use per residential unit had dropped from about 100,000 gallons per year to 90,000 gallons per year. However, he noted that there were a number of factors which impact on residential water uses, including, in addition to, water conservation efforts, household size and climatological variations. Mr. St. Peter agreed, noting that water rates also impact usage. Mr. Winkler cited the example in Lake Geneva of residential water uses being impacted by seasonal residents, noting that some residences are used only

part of the year. He noted that the number of connections to the Lake Geneva water supply system had increased; however, the total residential water use has not increased.

Chairman Bauer recommended, and it as generally agreed, to add further explanatory text on the variable, influencing factors to the section on water demand. Mr. Shaver recommended that the explanatory text also include industrial and commercial categories. Mr. St. Peter noted further variability factors related to changes in user categories, noting that in 1988 industrial water sales by the Kenosha Water Utility made up 43 percent of water sales, compared to 8 percent currently.

[Secretary's Note: Text has been added on pages 2 and 3 (now page 4) regarding the variable, influencing factors for the various water demand components. The text is incorporated into the revised version of Chapter IX attached to these minutes.]

Mr. Shaver referred to Tables IX-2, IX-3, and IX-4 and noted that detailed population, household, and land use data were available for the year 2000. He asked how such data was accounted for in calculating the year 2004 and 2005 data. Mr. Biebel replied that the population and household data for 2004 and 2005 was developed by using Wisconsin Department of Administration community-level population data for those years. He indicated that industrial and commercial land use changes from 2000 to 2004 and 2005 were approximated at the county level by applying the same percentage increase as the increase in population levels. Chairman Bauer recommended, and it was generally agreed, to add explanatory text to indicate the basis for the 2004 and 2005 estimates.

[Secretary's Note: Footnotes have been added to Table IX-2, IX-3, and IX-4 to explain the basis for the population and land use levels used to estimate the water use factors. The revised tables are incorporated into the revised version of Chapter IX attached to these minutes.]

Ms. Conley questioned the water uses associated with hospitals and the impact of a new hospital on future water uses. Mr. Biebel noted that hospitals, particularly full service hospitals, including such facilities as laundries and major food service facilities, are typically relatively large water users and that in communities where they exist, they typically were among a community's largest water users. Ms. Conley recommended that this be noted in the report.

[Secretary's Note: The text covering industrial and institutional water use categories on page 3 (now page 4) has been revised to indicate the types of those land uses which typically have high water uses. The text is incorporated into the revised version of Chapter IX attached to these minutes.]

Ms. Conley noted the use of separate meters for lawn sprinkling and questioned the extent of such metering provisions currently in place. Mr. Duchniak responded that in the City of Waukesha, residents can install a separate meter to measure water used for lawn sprinkling purposes. That water is only billed at the water charge rate, rather than at the combined water and sewerage charge rate. He indicated that in the City of Waukesha there were about 8,000 such meters installed to of a total of about 19,000 meters. The impact on water use of such a system is not known. Ms. Lewis noted that in Milwaukee water uses for watering of boulevard plantings was estimated on the basis of the area of boulevard watered.

Chairman Bauer referred to the per acre water demand factors on the bottom of page 4 and the top of page 5 and recommended that the term "gross acre" be defined.

[Secretary's Note: A footnote has been added to the bottom of page 5 (now page 10) to explain the terms "gross acre" and "net acre." The footnote is incorporated into the revised version of Chapter IX attached to these minutes.]

Mr. Rau referred to the unaccounted-for water reference on the top of page 5 and noted that there were AWWA recommendation on that topic could be referenced.

[Secretary's Note: Additional text has been added on page 5 to the section on unaccounted-for water. The text is incorporated into the revised version of Chapter IX attached to these minutes.]

Mr. Bunker referred to the unaccounted-for water value noted on the top of page 5. He indicated that it was important for the water utilities to focus resources on providing an efficient system which minimizes unaccounted-for water by actions, such as leakage detection and main replacement. He indicated these management measures were far more effective in minimizing water use than water conservation efforts.

Mr. Grisa recommended, and it was generally agreed, to add the words "and power" after the word "equipment" in the last sentence of the second full paragraph on page 5 (now page 10).

Mr. Winkler recommended, and it was generally agreed, to change the word "pumpage" to "usage" in the fourth third order heading on page 5 (now page 11).

Mr. Grisa referred to Tables IX-2, IX-3, and IX-4 and the usage factors noted on pages 4 and 5 (now pages 6 and 10). He noted the variability of the actual water uses between counties for commercial and industrial land uses in the tables and questions whether or not there should be different usage factors used for each county. Mr. Biebel replied that the usage factors only applied to new development and the usage factors for existing uses would be county-specific. Thus, he noted the variability between counties was expected to be less than shown in the referenced tables, and the use of regionwide factors was recommended for regional planning purposes. Ms. Lewis referred to the potential sensitivity of the forecast water uses and plan development to the variability in the usage factors as being important. Mr. Grisa asked about the relative proportion of existing and planned development. Chairman Bauer indicated that the year 2035 regional land use envisioned a total of about 825 square miles of urban land within the Region; about 732 square miles of this existed in the year 2000; thus, the new uses constituted about 11 percent of the total.

Ms. Lewis noted that since residential uses were typically the largest category of land use, and since this characteristic appeared to be consistent between counties, this should reduce the sensitivity of any demand forecasts to the demand by commercial and industrial uses.

After further discussion, it was agreed that a single set of factors should be used for estimating future water demands under the planning effort. It was further agreed, upon Chairman Bauer's suggestion, to add text to explain the factors affecting the variability in usage.

[Secretary's Note: Text has been added to page 4 (now page 6) regarding variability of water uses associated with various land use categories. The text is incorporated into the revised version of Chapter IX attached to these minutes.]

Mr. Biebel noted that further review of the water usage factors on a county-by-county basis indicated that the usage factor of 1,000 gallons per acre per day for commercial and institutional land uses may be somewhat high for use in estimating flows from such new development. Mr. Grisa agreed, observing that the value was close to the average of the existing uses, but higher than the mean value. Ms. Lewis

indicated that commercial use may be expected to become an increasingly more important water use category in Milwaukee County due to redevelopment activities.

[Secretary's Note: After further review of the existing land use usage factors, it is proposed to utilize a usage factor of 800 gallons per acre per day for new commercial and institutional land uses, as documented on page 6 of the revised chapter attached to these minutes.]

Mr. Shaver pointed out that Tables IX-2, IX-3, and IX-4 contained headings for water use factors which grouped some of the factors under one heading. He suggested that the table headings and the text be coordinated.

[Secretary's Note: The text and tables have been reviewed and revised to make them consistent to the extent possible. The revised text and tables are incorporated into the revised version of Chapter IX attached to these minutes.]

Mr. Grisa asked if the term "other urban uses" came from the Wisconsin Public Service Commission (PSC) report forms. Mr. Biebel indicated that this would be checked.

[Secretary's Note: The term "other urban uses" is not used in the PSC report forms. That term is used in the chapter to represent the uses reported on the PSC forms as fire protection services, sales to public authorities, sales to irrigation customers, and interdepartmental sales. This is explained in the footnotes to Table IX-2, IX-3, and IX-4.]

Ms. Lewis referred to Tables IX-2, IX-3, and IX-4, indicated that the data in these tables was important, and suggested that the data presentation be expanded to be more visually useful. She particularly noted the relative amounts of each component as being an important information item.

[Secretary's Note: Tables IX-2, IX-3, and IX-4 have been supplemented with "pie charts" showing the relative percentage of each water use component. The charts are included in the revised version of Chapter IX attached to these minutes.]

Mr. Ericson asked if unaccounted-for water was included in the amounts set forth in Tables IX-2, IX-3, and IX-4. Mr. Biebel indicated that unaccounted-for water was not included and would be over and above the amounts in the table.

[Secretary's Note: A column has been added to Tables IX-2, IX-3, and IX-4 to indicate the percentage of unaccounted-for water.]

Mr. Yunker noted that the inclusion of multi-family residential water uses with commercial and institutional uses may account for the variances between counties in that category of use, as illustrated by the data in Tables IX-2, IX-3, and IX-4.

[Secretary's Note: Under the assumptions of high-density development with seven to 18 dwelling units per net acre, and 70 gallons per person per day, the water uses for multi-family residential lands would be expected to range from 1,200 to 3,200 gallons per day per net acre. These values range from just over the regional average for the commercial, institutional, and multi-family use category, to over three times this average. Thus, the inclusion of multi-family

land uses may contribute to the higher water use factor in some areas, such as Milwaukee County.]

Mr. Grisa noted that water uses associated with redevelopment was an important consideration. Mr. Biebel indicated agreement. Chairman Bauer agreed, but noted that there was no readily available way to treat redevelopment at the regional level, since redevelopment proposals were highly site-specific and determined over time by market forces as modified by local planning. Nevertheless, he said, the design year 2035 regional land use plan does include such major redevelopments which were committed at the time of plan preparation, examples including the downtown redevelopment proposals in the Cities of Kenosha and Racine lakefront areas, the STH 45 corridor, and the Menomonee Valley in the City of Milwaukee and the STH 45 corridor redevelopment in the Cities of Wauwatosa and Milwaukee. These redevelopments, he said, could be specifically accounted for.

Dr. Cherkauer indicated that the chapter was missing the concept of source of supply capability to provide the needed water supply. He indicated that the chapter title, "Planning and Design Standards," would indicate such an consideration be included. He added that, in some cases, the aquifer water supply may not be adequate to support the planned land uses.

Mr. Biebel responded that such considerations were to be specifically addressed as alternative plans are developed and evaluated. He indicated that forecasts of water supply demands based upon an agreed-upon land use plan was required with which to develop and evaluate alternative water supply plans for sustainability. Chairman Bauer agreed, indicating that the chapter was intended to set forth an agreed-upon means for forecasting the water demand associated with each of the various types of land use. The water supply demand associated with given land uses, he said, was absolutely independent of the adequacy of the supply. For example, he said, the water supply needs of a full service hospital were determined by the needs of the sources provided and functions performed; and such a hospital should be located in an area with an adequate water supply. If, he said, if local planning permits such a land use to be located in an area of inadequate water, then the means to meet the demand will have to be found—perhaps at substantial cost. He noted that the decisions concerning the location of land uses are based upon powerful market forces, and often do not consider the spill-over effects of the decisions—not only on water supply, but on transportation facilities, sanitary sewerage and stormwater management facilities, police and fire services, and emergency medical services, among others. He noted, for example, recent decisions to locate new hospitals, shopping centers, industrial parks, and major warehousing and trucking operations in outlying areas of the Region. He observed that many of the environmental problems, including water supply problems, which exist within the Region are related to land use development policies is not consistent with regional plans; and that the issue of water supply cost and sustainability ultimately had to be addressed in land use planning and plan implementation..

Mr. Grisa noted that there may be a number of restrictions on water supply development besides aquifer capacity, such as cost and regulations. He suggested that the procedure proposed to be followed under which the water supply demand attendant to a planned land use pattern be calculated and then alternative means be considered to provide for that demand was rational and technically sound. Ms. Lewis disagreed and indicated that the issue of source of supply capacity should be considered in the chapter, suggesting that the issue be addressed in the introductory section. Mr. Rau also supported the need to present information on groundwater sustainability.

Mr. Bunker also disagreed with Dr. Cherkauer, noting that design requirements for certain water supply system components, such as fire protection, have to be properly designed to serve a given land use, regardless of the source of supply sustainability issues. Thus, the methods and standards for forecasting water supply demand set forth in the chapter were, in his opinion, sound for application in system planning and design. Mr. Ericson agreed, indicating that the issue of water supply source capacity needs

to be addressed specifically once the demands are known. He indicated that the place for that was not in this chapter.

After further discussion, it was agreed to change the title of the chapter to “Design Standards” and to add text at the appropriate places to conceptually discuss the issue of source of supply sustainability as a consideration which should be addressed.

[Secretary’s Note: In order to address the issue of water supply sustainability, a new section entitled “Water Supply Sustainability Analysis” has been added following the introductory section on page 1. It is hoped that these additions will assist in achieving an understanding of the rational planning process being followed.]

Ms. Conley referred to the section on page 9 on fire flow requirements, and asked if there should be standards presented on providing dual water systems for different uses, such as potable water and fire fighting. Chairman Bauer recalled that infrastructure for such a system was in place in the City of Milwaukee. A separate system of transmission mains and fire hydrants were provided that permitted fire boats on the Milwaukee River to connect to pump river water into the separate system. He noted that the dual system has been abandoned.

Mr. Schultz indicated that dual systems are being constructed in a few other areas of the country; however, only where entirely new systems are being installed. In cases where existing water supply infrastructure is in place, he noted such systems generally are not practical. Mr. Duchniak noted that existing systems are sized for fire-fighting needs. Mr. Ericson noted that one of the S.C. Johnson & Sons, Inc., facilities located in an areas remote from the City is served by the City system and cited the difficulty of providing a dual public system in such locations. After further discussion, it was agreed to include a section on dual systems in Chapter VII, “Water Conservation.”

Mr. Bunker supported the use of minimum size 12-inch-diameter water mains for distribution service in industrial and commercial areas, as listed in the fourth bulleted item on page 10. He recommended, and it was generally agreed, that the same recommendation apply to high-density residential areas. He cited a recent major fire incident in the Racine area where a large number of fire-fighting engines were required to fight the fire, raising concerns regarding the water main capacity and pressures. He noted that, although systems with inadequate capacity for some types of fire fighting are reported to fire departments and tagged, the fire departments typically proceed to utilize any available source of water to try to carry out their mission of protecting life and property. Chairman Bauer indicated that, in improperly designed systems, this may result in back flows and cross connections, with contamination of the systems.

Mr. Grisa referred to the fourth full paragraph on page 10 (now page 16) and noted the word “minimum” should be changed to “maximum.”

Mr. Rau referred to the section on main looping and sizing on page 10 and recommended that the option of having private building water systems designed for fire flow requirements be described. He noted that such systems could minimize municipal system requirements. It was agreed to add text addressing this option. Mr. Shaver pointed out that industrial and commercial building uses are difficult to predict over the long term as uses and occupants, and thus, water demands change. He cited an example of an 80-acre industrial tract in the Pabst Farms area where the water use was typical when computed on an overall average per acre basis. However, he noted that businesses located on two small parcels within the 80-acre tract accounted for over 70 percent of the total water use for the entire 80-acre tract.

[Secretary's Note: Text has been added regarding the potential use of private, special-purpose water supply systems at the end of the section on main looping and sizing on page 10 (now page 16). The text is incorporated into the revised version of Chapter IX attached to these minutes.]

Mr. Rau referred to the section on emergency supply on page 10. He suggested that text be added to indicate the desirability of system interconnections for emergency use and to provide system redundancy.

[Secretary's Note: Additional text has been added to the section entitled "Emergency Supply" on page 10 (now page 16). The text is incorporated into the revised version of Chapter IX attached to these minutes.]

Ms. Conley asked if it would be appropriate for the Committee to provide comments and recommendations to the appropriate parties regarding the potential water use and means to minimize water use associated with a new hospital proposed to be located in western Waukesha County. Mr. Yunker indicated that at this point, there was no adopted regional plan on which to base such comments and recommendations, and noted the importance of completing the plan in a timely manner so that the Commission could provide the type of comments and recommendations suggested. Chairman Bauer indicated that the Regional Planning Commission had a long history of not acting as a legal "volunteer" and typically would provide review and comments and recommendations only upon the requests of Federal, State, county, and municipal governmental units and agencies, and then only based upon adopted plans.

Ms. Lewis asked which rules governed the issuance of permits for diversion of water. Mr. Schultz replied that this was covered in NR 142 of the *Wisconsin Administrative Code*. Mr. Biebel noted that a water supply law report companion to the technical report currently being reviewed was being prepared as part of the regional water supply planning program. He noted that the companion report will address the water diversion regulations and policies and the proposed Great Lakes Charter Annex in considerable detail.

Ms. Conley recommended, and it was generally agreed, that reference to the new groundwater rule as set forth in Act 310 be added to the section entitled "Design Planning Standards for Public Water Supply, Groundwater Supply, and Recharge Systems" beginning on page 10.

[Secretary's Note: Draft NR 820 had been added to Table IX-6. In addition, explanatory text covering the groundwater rule Act 310 has been added at the section entitled "Groundwater Supply" on page 12 (now pages 18 and 19). The revised table and text are incorporated into the revised version of Chapter IX attached to these minutes.]

Ms. Lewis referred to the section entitled "Drinking Water Standards" on page 12. She indicated that the U.S. Environmental Protection Agency was separately enforcing certain aspects of the drinking water standards and that the State had not assumed primacy in this matter. Mr. Czarkowski responded that he thought the State had, at some time in the past, temporarily divested itself from the primary role. However, he thought that this was not currently the case. It was agreed that he would check with the Wisconsin Department of Natural Resources (WDNR) Madison office on this matter and, if appropriate, adjust the subject paragraph.

[Secretary's Note: Additional text has been added on page 10 (now pages 19 and 20) regarding primacy in drinking water standards regulation. The revised text is incorporated into the revised version of Chapter IX attached to these minutes.]

Ms. Lewis referred to the section entitled "Economic Evaluation" on page 17, and indicated that the 50-year service life of water mains and concrete structures seemed to be too short. Mr. Biebel indicated that the economic analysis period of 50 years as proposed and was sound for regional system planning. He indicated that changing the service life for certain facilities could be done by adding a salvage value; such addition being appropriate for certain facilities with service lives longer than 50 years. Mr. St. Peter noted that some equipment, such as computer-aided systems would have a life of less than 20 years. It was agreed to review the service lives of the facilities as set forth in the subject paragraph. References were made to a Wisconsin Public Service Commission schedule of water plan components with associated service lives.

[Secretary's Note: A review of the Wisconsin Public Service Commission (PSC) Table of Benchmark Ranges of Depreciation Rates indicates generally similar service lives to those selected, with the exception of transmission mains which are given a life of from 85 to 100 years, and certain equipment which have lower than 20-year lives. A copy of the PSC table is attached hereto as Exhibit A.

After review of the service lives proposed to be used in the economic analyses for the various facilities noted in the text, it is recommended that the economic service lives be left unchanged. The economic service lives noted are those typically used in similar analyses. It is recognized that certain facilities will have service lives longer than 50 years. However, in practical terms, extending the life of facilities beyond 50 years has little impact on the analyses, since the present worth factor of any salvage value at the end of 50 years is 0.054, or 5.4 percent of the salvage value. That present worth factor would typically be applied to a component value of 25 to 50 percent of its new value. Thus, the present worth of the salvage value would be 1 to 3 percent of the initial value. For facilities with 20-year service lives, it is recognized that some facilities, such as computers, will have shorter service lives; other components may have somewhat longer lives. The 20-year period is meant to be an estimated average for a large array of components. The text of the section on economic evaluation (now on page 26) has been refined to recognize that certain plan components have service lives which are more or less than those stated for use in the economic analysis.]

Mr. Bunker asked if the economic analysis described was similar to that used in facility planning reports for wastewater treatment plants. Mr. Biebel indicated that it was similar, but that local facility planning purposes typically used a 20-year analysis period, as opposed to a 50-year analysis period, as proposed. He noted that for regional wastewater treatment system planning purposes, a 50-year period was used, the same as that proposed for the regional water supply plan. He further noted that the 20-year period was appropriate for local planning where alternative local facilities are being evaluated. However, for regional planning involving evaluations of major water transmission mains or treatment plants, or major trunk sewers and regional wastewater treatment plants, a 50-year analysis period is more appropriate.

Mr. Duchniak reported that the Wisconsin Department of Natural Resources had drafted a new rule, Chapter NR 820 of the *Wisconsin Administrative Code*, which would require consistency of local water supply system facilities development with a reasonable use of the aquifers. He indicated that these rules were currently being reviewed by the State Groundwater Advisory Committee.

[Secretary's Note: A reference to the new draft rule has been added to Table IX-6.]

Mr. Czarkowski referred to the section of the report entitled "Drawings and Specifications." He recommended, and it was generally agreed, to add text to the section on the WDNR review procedures under Chapter NR 108 of the *Wisconsin Administrative Code*.

[Secretary's Note: Text has been added regarding WDNR review of water supply facility plans and specifications was added to the text under the heading "Water System Distribution Construction Plans and Specifications" at the end of the first partial paragraph on page 15 (now pages 23 and 24). The text is incorporated into the revised version of Chapter IX attached to these minutes.]

There being no further questions or comments, on a motion by Mr. Bunker, seconded by Mr. St. Peter, and carried unanimously, Chapter IX, "Planning and Design Standards," of SEWRPC Technical Report No. 43, *State-of-the-Art of Water Supply Practices*, was approved as amended.

DATE AND TIME OF NEXT MEETING

After a brief discussion, the next meeting of the Advisory Committee was tentatively scheduled to be held in the Commission offices on October 11, 2006, beginning at 9:00 a.m. Chairman Bauer noted that, at that meeting, it was planned to review Chapter VII, "Transmission and Storage," of SEWRPC Technical Report No. 43 and to tentatively complete review of Chapter III, "Existing Water Supply Conditions," of SEWRPC Planning Report No. 52.

ADJOURNMENT

There being no further business to come before the Committee, on a motion by Ms. Lewis, seconded by Mr. Moroney, and carried unanimously, the meeting was adjourned at 11:25 a.m.

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Exhibit A

PUBLIC SERVICE COMMISSION DEPRECIATION TABLE

Wisconsin Municipal Water Utilities
 Benchmark Ranges of Depreciation Rates
 Effective Date is January 1, 2000

Account Number	Account Title	Service Life		Net Salvage		Recommended Range of Deprec. Rates- Percents		Recommended Depreciation Rate
		Min	Max	Min	Max	Min	Max	
<u>Source of Supply Plant</u>								
311	Structures and Improvements	30	- 40	-15%	- 0%	2.5%	- 3.8%	3.2%
312	Collecting and Impounding Reservoirs	50	- 70	0%	- 0%	1.4%	- 2.0%	1.7%
313	Lake, River and Other Intakes	50	- 70	-5%	- 0%	1.4%	- 2.0%	1.7%
314	Wells and Springs	30	- 45	-10%	- 0%	2.2%	- 3.7%	2.9%
316	Supply Mains	50	- 75	-10%	- 0%	1.3%	- 2.2%	1.8%
317	Other Water Source Plant	20	- 25	0%	- 0%	4.0%	- 5.0%	4.5%
<u>Pumping Plant</u>								
321	Structures and Improvements	30	- 40	-15%	- 0%	2.5%	- 3.8%	3.2%
323	Other Power Production Equipment	20	- 30	-10%	- 0%	3.3%	- 5.5%	4.4%
325	Electric Pumping Equipment	20	- 30	-10%	- 0%	3.3%	- 5.5%	4.4%
326	Diesel Pumping Equipment	20	- 30	-10%	- 0%	3.3%	- 5.5%	4.4%
328	Other Pumping Equipment	20	- 30	-10%	- 0%	3.3%	- 5.5%	4.4%
<u>Water Treatment Plant</u>								
331	Structures and Improvements	30	- 40	-15%	- 0%	2.5%	- 3.8%	3.2%
332.1	Water Treatment Equipment-Filtration	30	- 40	-20%	- 0%	2.5%	- 4.0%	3.3%
332.2	Water Treatment Equipment-Chlorination	15	- 20	-5%	- 0%	5.0%	- 7.0%	6.0%
<u>Transmission and Distribution Plant</u>								
341	Structures and Improvements	30	- 40	-15%	- 0%	2.5%	- 3.8%	3.2%
342	Distribution Reservoirs and Standpipes	50	- 65	-10%	- 0%	1.5%	- 2.2%	1.9%
343	Transmission and Distribution Mains	85	- 100	-10%	- 0%	1.0%	- 1.3%	1.3%
345	Services	45	- 60	-30%	- 0%	1.7%	- 2.9%	2.9%
346	Meters	16	- 25	0%	- 0%	4.0%	- 6.3%	5.5%
348	Hydrants	55	- 75	-20%	- 0%	1.3%	- 2.2%	2.2%
349	Other Transm. and Distribution Plant	15	- 30	0%	- 0%	3.3%	- 6.7%	5.0%
<u>General Plant</u>								
390	Structures and Improvements (D-371)	30	- 40	0%	- 0%	2.5%	- 3.3%	2.9%
391	Office Furniture and Equipment (D-372)	15	- 20	0%	- 0%	5.0%	- 6.7%	5.8%
391.1	Computer Equipment (D-372.1)	3	- 5	0%	- 0%	20.0%	- 33.3%	26.7%
392	Transportation Equipment (D-373)	5	- 15	10%	- 25%	6.7%	- 20.0%	13.3%
393	Stores Equipment	15	- 20	0%	- 0%	5.0%	- 6.7%	5.8%
394	Tools, Shop and Garage Equipment	15	- 20	0%	- 0%	5.0%	- 6.7%	5.8%
395	Laboratory Equipment	15	- 20	0%	- 0%	5.0%	- 6.7%	5.8%
396	Power Operated Equipment	10	- 20	10%	- 25%	5.0%	- 10.0%	7.5%
397	Communication Equipment	5	- 10	0%	- 0%	10.0%	- 20.0%	15.0%
397	Communication Equipment- SCADA	10	- 12	0%	- 0%	8.3%	- 10.0%	9.2%
398	Miscellaneous Equipment (D-379)	15	- 20	0%	- 0%	5.0%	- 6.7%	5.8%

NOTE 1: In the event any class of plant shall become fully depreciated by the use of these rates with due consideration for net salvage, if any, then no further accrual for such class of plant shall be made.

NOTE 2: The net salvage percentages listed with a negative sign indicate a negative net salvage.

NOTE 3: The recommended **Total Utility Composite** depreciation rate range is **2.0% to 2.5%**.