

WPS RESOURCES CORP
Form 424B5
November 13, 2003

[QuickLinks](#) -- Click here to rapidly navigate through this document

The information in this prospectus supplement and the accompanying prospectus is not complete and may be changed. This prospectus supplement and the accompanying prospectus are not an offer to sell these securities and are not soliciting an offer to buy these securities in any state where the offer and sale is not permitted.

Filed pursuant to Rule 424(b)(5)
Registration No. 333-104787

SUBJECT TO COMPLETION NOVEMBER 13, 2003

PROSPECTUS SUPPLEMENT
(To Prospectus Dated September 8, 2003)

3,500,000 Shares
WPS RESOURCES CORPORATION
Common Stock

WPS Resources Corporation is selling 3,500,000 shares of common stock. Our common stock is listed on the New York Stock Exchange under the symbol "WPS." On November 10, 2003, the last sale price of our common stock, as reported in the New York Stock Exchange Composite Transactions, was \$45.03 per share.

See "Risk Factors" beginning on page S-7 for a discussion of certain risk factors that prospective investors should consider before investing in our common stock.

	<u>Per Share</u>	<u>Total</u>
Public Offering Price	\$	\$
Underwriting Commission	\$	\$
Proceeds, before expenses, to WPS Resources	\$	\$

The underwriters may also purchase up to an additional 525,000 shares at the public offering price, less the underwriting commission, within 30 days from the date of this prospectus supplement to cover over-allotments.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

We expect certificates for the shares of common stock to be ready for delivery in New York, New York on or about _____, 2003.

A.G. Edwards & Sons, Inc.

Robert W. Baird & Co.

Edward D. Jones & Co., L.P.

The Williams Capital Group, L.P.

The date of this prospectus supplement is _____, 2003.

WPS Resources' Subsidiaries

Markets Served by Regulated Utilities

Location of Nonregulated Operations

**IMPORTANT NOTICE ABOUT INFORMATION IN THIS PROSPECTUS
SUPPLEMENT AND THE ACCOMPANYING PROSPECTUS**

You should rely only on the information contained in this prospectus supplement, the accompanying prospectus and the documents we have incorporated by reference. We have not authorized anyone to provide you with different information. We are not making an offer of the shares of common stock in any state which does not permit their offer or sale. You should not assume that the information provided by this prospectus supplement or the accompanying prospectus, as well as the information we have previously filed with the Securities and Exchange Commission that we incorporate by reference, is accurate as of any date other than the date thereof. If information in this prospectus supplement updates information in the accompanying prospectus, this prospectus supplement will apply and will supersede that information in the prospectus. For purposes of this prospectus supplement and the accompanying prospectus, unless the context otherwise indicates, when we refer to "us," "we," "our," "ours," or the "Company" we are describing WPS Resources Corporation, together with its subsidiaries.

TABLE OF CONTENTS

	<u>Page</u>
Prospectus Supplement	
Important Notice about Information in this Prospectus Supplement and the Accompanying Prospectus	i
Summary	S-1
Risk Factors	S-7
Forward-Looking Statements	S-12
Use of Proceeds	S-13
Underwriting	S-14
Legal Matters	S-15
Prospectus	
Summary	1
Risk Factors	5
The Company	5

	Page
Use of Proceeds	5
Description of the Debt Securities	6
Description of Common Stock	15
Plan of Distribution	19
Legal Matters	20
Experts	20

SUMMARY

This summary provides an overview of WPS Resources and its subsidiaries and certain key aspects of the offering. This summary is not complete and does not contain all of the information you should consider before purchasing our common stock. Before purchasing our common stock, you should read carefully all of the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus, including the "Risk Factors" section.

The Company

WPS Resources, based in Green Bay, Wisconsin, was incorporated in Wisconsin in 1993 as a holding company for regulated utility and nonregulated business units. Our principal subsidiary is Wisconsin Public Service Corporation, a regulated electric and natural gas utility that generates and distributes energy in northeastern Wisconsin and an adjacent portion of the Upper Peninsula of Michigan. Our other major subsidiaries include Upper Peninsula Power Company, a regulated electric utility operating in the northern half of Michigan's Upper Peninsula, and two nonregulated subsidiaries, WPS Power Development, Inc. and WPS Energy Services, Inc.

Approximate percentages of our consolidated net income for the twelve months ended September 30, 2003 and consolidated assets at September 30, 2003 attributable to WPS Resources, as a holding company, and its principal operating subsidiaries are:

	Twelve Months Ended September 30, 2003	At September 30, 2003
	Percent of Net Income*	Percent of Assets*
Wisconsin Public Service Corporation	77%	60%
Upper Peninsula Power Company	7%	4%
WPS Energy Services, Inc.	25%	26%

Edgar Filing: WPS RESOURCES CORP - Form 424B5

	Twelve Months Ended September 30, 2003	At September 30, 2003
WPS Power Development, Inc.	4%	10%
WPS Resources Corporation	(13)%	2%

*The percentages above do not total 100% due to the inclusion of intercompany transactions related to purchases and sales of power and natural gas between subsidiaries.

Our principal executive offices are located at 700 North Adams Street, P.O. Box 19001, Green Bay, Wisconsin 54307. Our telephone number is (920) 433-4901.

S-1

Wisconsin Public Service Corporation

Wisconsin Public Service, which began operations in 1883, is a regulated electric and natural gas utility serving an approximate 11,000 square mile service territory in northeastern Wisconsin and an adjacent portion of the Upper Peninsula of Michigan. At December 31, 2002, Wisconsin Public Service served 407,696 electric retail customers and 295,816 natural gas retail customers. Wholesale electric service is provided to various customers, including municipal utilities, electric cooperatives, energy marketers, other investor-owned utilities, and municipal joint action agencies.

Upper Peninsula Power Company

Upper Peninsula Power, established in 1884, is a regulated utility providing electric service to an approximate 4,500 square mile area of Michigan's Upper Peninsula. At December 31, 2002, Upper Peninsula Power provided retail electric service to 50,770 customers and wholesale electric service to 437 customers. Total 2002 revenues consisted of 89% retail sales and 11% wholesale sales.

WPS Energy Services, Inc.

WPS Energy Services, established in 1994, is a nonregulated indirect subsidiary of WPS Resources. WPS Energy Services provides energy and related products and services in the nonregulated energy market throughout the Midwest and northeastern United States and in the adjacent provinces of Canada. WPS Energy Services had revenues of \$362.8 million in 2002 and assets of \$877.2 million at December 31, 2002.

WPS Power Development, Inc.

WPS Power Development, established in 1995, is also a nonregulated indirect subsidiary of WPS Resources. WPS Power Development owns and/or operates, through its subsidiaries, electric generation facilities in Wisconsin, Maine, Pennsylvania, New York, and New Brunswick, Canada, a 23.3% interest in a synthetic fuel processing facility located in Kentucky, and steam production facilities located in Arkansas and Oregon. WPS Power Development had revenues of \$145.2 million in 2002 and assets of \$358.1 million at December 31, 2002.

Recent Developments

Sunbury Generation Plant

On October 24, 2003, WPS Power Development announced that it had signed a definitive agreement to sell its Sunbury generation plant (located near the town of Shamokin Dam in Pennsylvania) to Duquesne Power, L.P., a subsidiary of Duquesne Light Holdings. Based on the terms of the asset sales agreement, the sale price is anticipated to be approximately \$120 million for the plant, emission allowances, fuel, and spare parts inventory. WPS Power Development financed Sunbury with equity from WPS Resources and debt financing, including nonrecourse debt and a related interest rate swap, from a group of banks. Upon closing of the sale and settlement of financing arrangements, WPS Power Development anticipates the transaction will reduce after tax income approximately \$4 million at the time of closing. The amount of the loss will be affected by several factors, including: the timing of the sale, interest rates at the time of closing, which will impact the settlement of the interest rate swap, and the cost of a forward supply contract to supply WPS Power Development's current out-take contract with a third party. The out-take contract is related to this plant and expires in December 2004. Subject to approval by the Pennsylvania Public Utility Commission

of Duquesne Light Company's Provider of Last Resort plan and other typical regulatory approvals, the transaction is anticipated to close in the summer of 2004. See "Risk Factors" for a discussion of certain risks associated with the operation and sale of the Sunbury generation plant.

S-2

Kewaunee Nuclear Power Plant

On November 7, 2003, Wisconsin Public Service and Wisconsin Power and Light Company (a subsidiary of Alliant Energy Corporation) announced that they had signed a definitive agreement to sell the jointly-owned Kewaunee Nuclear Power Plant to a subsidiary of Dominion Resources, Inc. Wisconsin Public Service is a 59% owner of the Kewaunee plant. The sale is subject to approvals from various regulatory agencies including the Public Service Commission of Wisconsin, the Federal Energy Regulatory Commission and the Nuclear Regulatory Commission. Subject to the timing of the receipt of regulatory approvals, the transaction is expected to close in the fall of 2004.

Wisconsin Public Service anticipates that its share of the proceeds from the sale will be approximately \$130 million in cash, based on a November 1, 2004 closing date. The cash proceeds from the sale are expected to slightly exceed the carrying value of the Wisconsin Public Service assets being sold. Wisconsin Public Service will request deferral of most of this gain and related costs from the Public Service Commission of Wisconsin. Dominion will assume the liabilities for decommissioning of the Kewaunee plant in exchange for Wisconsin Public Service's qualified decommissioning trust assets (approximately \$251 million pretax value at November 7, 2003). Wisconsin Public Service's non-qualified decommissioning trust assets (approximately \$108 million pretax value at November 7, 2003) are not included in the sale and will be retained by Wisconsin Public Service pending a regulatory treatment decision from the Public Service Commission of Wisconsin. Wisconsin Public Service expects that most of the gain on the sale of the plant assets and the related non-qualified decommissioning trust assets will be returned to customers under future rate orders. As a result, Wisconsin Public Service does not anticipate any material impact on net income from this transaction.

In conjunction with the sale, Wisconsin Public Service will enter into a power purchase agreement with Dominion to purchase capacity and energy through the original license term of 2013. This agreement will allow Wisconsin Public Service to purchase capacity and energy equivalent to the amount that it would have received from the plant had it maintained its current ownership interest. The power purchase agreement also requires regulatory approval.

IRS Announcements Regarding Section 29 Tax Credits for Synthetic Fuels

Through an affiliate of WPS Power Development, WPS Resources owns a partial interest in a synthetic fuel production facility located in Kentucky and receives tax credits pursuant to Section 29 of the Internal Revenue Code based on sales to unaffiliated third-party purchasers of synthetic fuel produced from coal.

On June 27, 2003, the Internal Revenue Service announced that it had reason to question the scientific validity of certain test procedures and results that have been presented by certain taxpayers to qualify for Section 29 tax credits and also announced that it was reviewing information regarding these test procedures and practices.

On August 1, 2003, the Internal Revenue Service notified WPS Resources that its synthetic fuel affiliate is under review for the 2001 tax period as a result of the June Internal Revenue Service announcement. In addition, the Internal Revenue Service informed WPS Resources that it may reexamine the 2000 tax period depending upon the results of the review of 2001. Previously, the Internal Revenue Service had informed the WPS Resources affiliate that its 1999 and 2000 returns had been examined and accepted as filed. It is not known when the audit will be completed.

On October 29, 2003, the Internal Revenue Service announced that the test procedures and results used by taxpayers are scientifically valid if the procedures are applied in a consistent and unbiased manner. WPS Resources believes that such requirement is met for the facility. The Internal Revenue Service also announced that it plans to issue guidelines regarding future sampling and quality control procedures, testing intervals and record keeping requirements with respect to tests for significant

S-3

chemical change. The Internal Revenue Service is also considering requiring that testing laboratories meet certain accreditation standards and other requirements. WPS Resources believes that the facility will be able to comply with such guidelines.

Edgar Filing: WPS RESOURCES CORP - Form 424B5

According to published reports on October 29, 2003, the Permanent Subcommittee on Investigation of the Senate Committee on Governmental Affairs initiated an investigation of "potential abuses of tax credits for producers of synthetic fuel under Section 29." It is not known if and when such investigation will be completed and what impact, if any, such investigation may have on the Internal Revenue Service announcement of the same date.

WPS Resources continues to believe the facility has been operated in compliance with the private letter rulings and Section 29 of the Code. See "Risk Factors" for a discussion of certain risks associated with Section 29 tax credits.

S-4

Summary Consolidated Financial Information (Amounts in millions, except per share amounts)

The following table sets forth selected financial information for WPS Resources and its subsidiaries on a consolidated basis. You should read the following table in conjunction with the consolidated financial statements and notes included in our Current Report on Form 8-K dated August 1, 2003 (which presents our reclassified financial statements in accordance with requirements of Emerging Issues Task Force Issue No. 02-03) and in our Quarterly Report on Form 10-Q for the quarter ended September 30, 2003, both of which are incorporated by reference into this prospectus supplement and the accompanying prospectus. The data presented for the years ended December 31 is derived from audited financial statements.

	Years Ended December 31,			Nine Months Ended September 30,	
	2000	2001	2002	2002	2003
				(unaudited)	
Income Statement Data:					
Operating revenues	\$ 1,174.4	\$ 1,431.8	\$ 1,547.6	\$ 1,108.7	\$ 3,277.4
Operating income	\$ 110.2	\$ 107.3	\$ 151.1	\$ 116.7	\$ 112.1
Income available for common shareholders	\$ 67.0	\$ 77.6	\$ 109.4	\$ 80.2	\$ 69.8
Average number of shares of common stock outstanding	26.5	28.2	31.7	31.7	32.5
Basic earnings per average share of common stock (1)	\$ 2.53	\$ 2.75	\$ 3.45	\$ 2.53	\$ 2.15
Diluted earnings per average share of common stock (1)	\$ 2.53	\$ 2.74	\$ 3.42	\$ 2.52	\$ 2.14
Dividends per share of common stock	\$ 2.04	\$ 2.08	\$ 2.12	\$ 1.585	\$ 2.16
		At December 31,		At September 30,	
		2001	2002	2002	2003
				(unaudited)	
Balance Sheet Data:					
Total assets	\$ 2,870.0	\$ 3,207.9	\$ 2,894.0	\$ 3,779.1	\$ 2,018.4
Property, plant & equipment, net	1,463.6	1,610.2	1,585.2	1,585.2	2,018.4
Capitalization:					
Long-term capital lease obligation, including current portion		73.0		72.4	
Long-term debt, including current portion		711.4	895.5	707.6	819.6
Company obligated mandatorily redeemable trust preferred securities of subsidiary trust		50.0	50.0	50.0	50.0
Preferred stock of subsidiary with no mandatory redemption		51.1	51.1	51.1	51.1
Common stock equity		715.9	782.8	765.5	810.5
		\$ 1,601.4	\$ 1,779.4	\$ 1,646.6	\$ 1,731.2
Total capitalization		\$ 1,601.4	\$ 1,779.4	\$ 1,646.6	\$ 1,731.2

Edgar Filing: WPS RESOURCES CORP - Form 424B5

Capitalization:	At December 31,		At September 30,	
	At September 30, 2003			
	Actual		Pro Forma(2)	
	Amount	Percent	Amount	Percent
	(unaudited)			
Long-term debt, including current portion	\$ 819.6	47%		
Company obligated mandatorily redeemable trust preferred securities of subsidiary trust	50.0	3%		
Preferred stock of subsidiary with no mandatory redemption	51.1	3%		
Common stock equity	810.5	47%		
Total capitalization	\$ 1,731.2	100%		

S-5

- (1) The basic and diluted earnings per average share of common stock for the nine months ended September 30, 2003 include \$0.10 for the impact of a cumulative effect of changes in accounting principles. On January 1, 2003, WPS Resources adopted Emerging Issues Task Force Issue No. 02-03, "Issues Involved in Accounting for Derivative Contracts Held for Trading Purposes and Contracts Involved in Energy Trading and Risk Management Activities," and Statement of Financial Accounting Standards No. 143, "Accounting for Asset Retirement Obligations." The adoption of these standards resulted in a consolidated positive after-tax cumulative effect of changes in accounting principles of \$3.2 million.
- (2) The "Pro Forma" column reflects the estimated net proceeds from the issuance of 3,500,000 shares of common stock offered by this prospectus supplement and the accompanying prospectus, but does not include the net proceeds from the issuance of up to 525,000 shares of common stock issuable upon the exercise of the underwriters' over-allotment option. The "Pro Forma" column also gives effect to the use of a portion of the net proceeds from this offering to retire the company obligated mandatorily redeemable trust preferred securities of subsidiary trust included in the table.

As previously announced, Wisconsin Public Service intends to issue long-term debt of up to \$150 million in the fourth quarter of 2003, of which \$50 million is currently expected to be used to refund existing long-term debt. The size and timing of the debt offering are dependent on business needs and refinancing opportunities.

The Offering

Issuer	WPS Resources Corporation	
Securities Offered	3,500,000 shares of common stock	
Number of Shares of Common Stock Outstanding after the Offering		
(1)	36,181,718	
Current Common Stock Dividend Rate	\$0.545 per quarter	
Next Dividend Record Date	November 28, 2003	
Range of High and Low Sales Prices per Share of Common Stock (January 1, 2003 through November 10, 2003)	\$45.13	\$36.80
New York Stock Exchange Listing Symbol	WPS	
Use of Proceeds	To retire up to \$50 million of trust preferred securities, to reduce short-term debt, to fund equity contributions to subsidiary companies and for general corporate purposes	

(1)

The number of shares of common stock outstanding after the offering is based on 32,681,718 shares outstanding as of November 10, 2003. The number of shares of common stock offered and to be outstanding after this offering does not include:

525,000 additional shares of common stock that the underwriters have an option to purchase from us within 30 days of the date of this prospectus supplement; and

shares issuable upon the exercise of outstanding stock options held by our employees, executive officers and directors.

S-6

RISK FACTORS

You should carefully consider the following risk factors, as well as the other information included or incorporated by reference in this prospectus supplement and the accompanying prospectus, before making an investment in our common stock. The following risk factors update and replace in their entirety the risk factors incorporated by reference in the accompanying prospectus. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known or that we currently believe to be immaterial may also adversely affect us.

IRS Audit Synthetic Fuel Production Facility

We have significantly reduced our consolidated federal income tax liability for the past three years through tax credits available to us under Section 29 of the Internal Revenue Code for the production and sale of solid synthetic fuel from coal. We have not fully utilized Section 29 tax credits previously available to us. As a result, in order to maximize the value of our synthetic fuel production facility, we have reduced our interest in the facility from 67% to 23% through sales to third parties. Our ability to fully utilize the Section 29 tax credits that remain available to us in connection with our remaining interest in the facility will depend on whether the amount of our federal income tax liability is sufficient to permit the use of such credits. The Internal Revenue Service strictly enforces compliance with all of the technical requirements of Section 29. Section 29 tax credits are currently scheduled to expire at the end of 2007.

On June 27, 2003, the Internal Revenue Service announced that it had reason to question the scientific validity of certain test procedures and results that have been presented by certain taxpayers to qualify for Section 29 tax credits. The Internal Revenue Service also announced that it was reviewing information regarding these test procedures and practices.

On August 1, 2003, WPS Resources received notice from the Internal Revenue Service that the WPS Resources' affiliate through which it holds an ownership interest in a synthetic fuel facility is under review for the 2001 tax period as a result of the June Internal Revenue Service announcement. The Internal Revenue Service also notified WPS Resources that, depending upon the review of the affiliate's 2001 tax return, the Internal Revenue Service might reexamine the affiliate's 2000 tax return. At this time, WPS Resources' management cannot predict the outcome of the Internal Revenue Service's review, when the review will be completed or the ultimate impact, if any, of the review on WPS Resources.

We have recorded approximately \$78 million of Section 29 tax credits as reductions of income tax expense from the project's inception in June 1998 through September 30, 2003. As a result of alternative minimum tax rules, about \$51 million has been carried forward as a deferred tax asset as of September 30, 2003. Future payments under one of the agreements covering the sale of a portion of our interest in the facility are contingent on the facility's continued production of synthetic fuel. Any disallowance of some or all of those tax credits would materially affect our tax obligations and may also result in a reduction of the level of synthetic fuel production at the facility, thus reducing the likelihood and amount of future payments under that agreement. Future tax legislation and Internal Revenue Service review may also affect the value of the credits and of our share of the facility.

Clean Air Act Enforcement Initiative

In November 1999, the United States Environmental Protection Agency (which we refer to as the "EPA") announced the commencement of a Clean Air Act enforcement initiative targeting the utility industry, resulting in the issuance of several notices of violation/findings of violation

and the filing of lawsuits against other unaffiliated utilities. In these enforcement proceedings, the EPA claims that the utilities made modifications to the coal-fired boilers and related equipment at the utilities' electric generating stations without first obtaining appropriate permits under the EPA's pre-construction permit

S-7

program and without installing appropriate air pollution control equipment. In addition, the EPA is also claiming, in certain situations, that there were violations of the Clean Air Act's "new source performance standards." In response to this initiative, several utilities have elected to settle with the EPA, while others are in litigation. In general, those utilities that have settled have entered into consent decrees which require the companies to pay fines and penalties, undertake supplemental environmental projects and either upgrade or replace pollution controls at existing generating units or shut down existing units, and replace these units with new electric generating facilities. The fines and penalties (including the capital costs of supplemental environmental projects) associated with these settlements have ranged between \$7 million and \$30 million.

At various times in 2000, 2001 and 2002, we received requests from the EPA for information and documents relating to work performed on our coal-fired boilers located at the Pulliam and Weston electric generating stations, as well as our Columbia generating station (a facility located in Portage, Wisconsin jointly owned by Wisconsin Power and Light Company, Madison Gas and Electric Company, and us), and at various times we have filed responses to those requests. Depending upon the results of the EPA's review of the information, the EPA may seek additional information from us and/or third parties who have information relating to the boilers, close out the investigation, or issue a "notice of violation" or "finding of violation" asserting that a violation of the Clean Air Act occurred. If the federal government decided to bring a claim against us and if it were determined by a court that historic projects at the Pulliam, Weston or Columbia electric generating stations required either a state or federal Clean Air Act permit, we may, under the applicable statutes, be required to:

shut down any unit found to be operating in non-compliance,

install additional pollution control equipment,

pay a fine, and/or

conduct a supplemental environmental project in order to resolve any such claim.

Sunbury Generation Plant

On October 24, 2003, WPS Power Development announced that it had signed a definitive agreement to sell its Sunbury generation plant to Duquesne Power, L.P., a subsidiary of Duquesne Light Holdings. We cannot assure you that the transaction will be consummated. For additional information, see "Summary Recent Developments."

WPS Power Development will continue to operate the plant until the sale is completed. As a result of plant performance issues in the past, the plant has incurred outages for maintenance and repair during which it has been unable to operate at full generating capacity. During such outages, the plant fulfills its contractual commitments by purchasing replacement power in the open market as needed. If Sunbury is required to fulfill interim contractual obligations through the purchase of replacement power prior to the closing, WPS Power Development may experience higher purchased power expenses. In addition, plant outages prior to the closing may require increased capital expenditures or higher maintenance and repair expenses.

The amount of the loss incurred in connection with the sale will be affected by several factors, including: the timing of the sale, interest rates at the time of closing, which will impact the settlement of the interest rate swap, and the cost of a forward supply contract to supply WPS Power Development's current out-take contract with a third party. The out-take contract is related to this plant and expires in December 2004.

Sunbury operates in the PJM Interconnection area, which has been experiencing depressed prices as a result of overcapacity. If market prices for capacity continue at current low levels, margins will continue to be negatively affected.

S-8

Increasingly Competitive and Changing Industry

The regulated energy industry has been undergoing dramatic structural change for several years, ranging from increasing competitive pressure on electric and natural gas utility companies to proposals for deregulation. Increased competition from alternative energy sources already provide utility customers with more energy options than in the past. Deregulation could change the rate structure of the regulated utility industry from a system promoting energy reliability through a system of reasonable cost recovery to a total market based rate structure which puts the recovery of costs of generation facilities more at risk. Increased competition may create greater risks to the stability of utility earnings generally and may in the future reduce our utility earnings from retail electric and natural gas sales. While the future of deregulation in the utility industry and its impact on our future is uncertain, change is evident. At the present time, Wisconsin has not adopted legislation or regulations that would allow customers to choose their electric supplier. All Michigan electric customers were able to choose their electric generation suppliers beginning January 1, 2002 as a result of the Customer Choice Act.

To the extent competitive pressures increase and the pricing and sale of electricity assumes more of the characteristics of a commodity business, the economics of our business may come under increasing pressure. In addition, regulatory changes may increase access to electric transmission grids by utility and nonutility purchasers and sellers of electricity, thus potentially resulting in a significant number of additional competitors in wholesale power generation.

Availability of Suitable Projects for Purchase or Development

Our strategy for the growth of our nonregulated generation business depends partially upon our ability to identify and complete acquisitions and development projects at appropriate prices. There can be no assurance that the projects we have acquired to date or projects that we may acquire in the future will perform as expected or that the returns from those projects will support the indebtedness incurred to acquire them or the capital expenditures needed to maintain or develop them. In addition, many of our competitors are seeking opportunities to acquire or develop energy assets. This competition may adversely affect our ability to make investments or acquisitions.

Changes in State and Federal Regulatory Policy and Authorized Rates of Utility Subsidiaries

The Public Service Commission of Wisconsin regulates Wisconsin Public Service's retail utility rates in the State of Wisconsin, including Wisconsin Public Service's permitted ratio of debt-to-equity and allowed return on equity. Wisconsin Public Service is generally required to file a rate case with the Public Service Commission of Wisconsin every two years based on a forward-looking test year period. The Michigan Public Service Commission regulates the retail utility rates in the State of Michigan of both Wisconsin Public Service and Upper Peninsula Power. The Federal Energy Regulatory Commission also regulates wholesale rates and other issues affecting Wisconsin Public Service and Upper Peninsula Power. Over time there may be substantial changes in the regulatory environment in any or all of these jurisdictions, and any changes could have an adverse effect on the revenues and income of our utility subsidiaries.

Ability to Sell Electricity Generated from our Nonregulated Facilities at Market Prices

The Federal Energy Regulatory Commission has authorized us to sell generation from our nonregulated facilities at market prices. The Federal Energy Regulatory Commission retains the authority to modify or withdraw our market based rate authority. If the Federal Energy Regulatory Commission determines that the market is not workably competitive, that we possess market power or that we are not charging just and reasonable rates, then the Federal Energy Regulatory Commission may require us to sell power at a price based upon the costs we incur in producing the power. Our

S-9

revenues and profit margins will be negatively affected by any reduction by the Federal Energy Regulatory Commission of the rates we may receive.

Market Prices for Nonregulated Electric Energy Sales

If market prices for electric energy decline below the cost of production at our nonregulated facilities, these units may be temporarily shut down and alternative sources of energy found to meet energy commitments.

Increases in Costs of Nonregulated Fuel and Purchased Power

Edgar Filing: WPS RESOURCES CORP - Form 424B5

Our nonregulated subsidiaries, WPS Power Development and WPS Energy Services, may experience increased expenses, including interest costs and uncollectibles, higher working capital requirements and possibly some reduction in volumes sold as a result of any increase in the cost of fuel or purchased power.

Safe Operation, Maintenance and Decommissioning of our Share of our Generating Facilities

Wisconsin Public Service owns and operates coal, nuclear, hydro, natural gas and other fueled generating facilities. We are liable for the maintenance and safe operation of these facilities. We are also responsible for the costs to remove these plants from service and reclaim the sites upon decommissioning of any of these plants.

Compliance with Existing and New Environmental Laws and Regulations

We are subject to extensive environmental regulations in connection with the ongoing conduct of our business and to civil and criminal liability for failure to comply with these regulations. We are also generally responsible for all on site liabilities associated with the environmental condition of our power generation facilities, former manufactured gas plant sites and other facilities which we have previously owned and/or operated or currently own and/or operate regardless of when the liabilities arose and whether they are currently known or unknown.

The application of current and future federal and state environmental restrictions may limit, prevent or substantially increase the cost of the operation of generation facilities and may require substantial investments in new equipment at existing installations. Such restrictions may require substantial additional investments for new projects and may delay or prevent completion of projects.

Limitations on Access to the Revenues and Assets of our Subsidiaries

In general, any claim of WPS Resources against the assets of its subsidiaries is subject to the prior rights of the creditors of those subsidiaries. In addition, the Wisconsin public utility holding company law prohibits public utility subsidiaries from making loans to, or pledging their credit for, nonutility members of a Wisconsin public utility holding company system, including the holding company.

Orders of the Public Service Commission of Wisconsin limit the amount of ordinary dividends that Wisconsin Public Service may pay to WPS Resources to 109% of the prior year's dividend and require that the debt-to-equity ratio of Wisconsin Public Service, as calculated by the Public Service Commission of Wisconsin, remain within a range of 54% to 58%. The articles of incorporation of Wisconsin Public Service also limit the amount of dividends it may pay on its common stock if its common stock and common stock surplus account are less than 25% of its total capitalization. Bond indenture provisions currently limit the amount of dividends which may be paid by Upper Peninsula Power to WPS Resources.

Substantially all of the physical assets of Wisconsin Public Service and Upper Peninsula Power secure outstanding bond issues of Wisconsin Public Service and Upper Peninsula Power. Some of the

S-10

generating assets of WPS Power Development's subsidiaries have been mortgaged to secure acquisition financing.

Wisconsin Public Utility Holding Company Law

The Wisconsin public utility holding company law precludes the acquisition of 10% or more of the voting shares of a holding company of a Wisconsin public utility unless the Public Service Commission of Wisconsin has first determined that the acquisition is in the best interests of utility consumers, investors and the public. Those interests may, to some extent, be mutually exclusive. This provision and other requirements of the Wisconsin public utility holding company law may delay, or reduce the likelihood of, a sale or change of control of WPS Resources, thus reducing the likelihood that shareholders will receive a takeover premium for their shares.

Provisions in our Articles of Incorporation, Bylaws and the Wisconsin Business Corporation Law and our Shareholder Rights Plan

Our articles of incorporation, bylaws and shareholder rights plan, as well as provisions of the Wisconsin Business Corporation Law, contain provisions that could delay or prevent a change of control or changes in our management that a shareholder might consider favorable and may prevent you from receiving a takeover premium for your shares.

Edgar Filing: WPS RESOURCES CORP - Form 424B5

The WPS Resources articles of incorporation and bylaws provide for a classified Board of Directors. The Board consists of three classes of directors each composed of 3 directors. All directors are elected for a three-year term with the terms of one class of directors expiring and up for re-election each year. These provisions can be amended, altered, changed or repealed only by the affirmative vote of shareholders possessing at least 75% of the voting power of the then outstanding shares of all classes of stock possessing voting rights.

The shareholder rights plan provides all shareholders with one right for each share of WPS Resources common stock they own. These rights may be redeemed or, under certain circumstances, exchanged for shares of WPS Resources common stock as provided in the Rights Agreement, dated as of December 12, 1996, as amended. All rights will expire on December 11, 2006.

The rights are not presently exercisable. They will become exercisable ten days after any person or group of affiliated or associated persons acquires 15% or more of our common stock or ten business days (subject to extension) after a person or group of affiliated or associated persons announces a tender offer for 15% or more of our common stock. Each right will entitle the holder to purchase one share of our authorized but unissued common stock at an exercise price of \$85. Upon the acquisition by any person or group of affiliated or associated persons of 15% or more of our common stock, each right, other than the rights held by an acquiring party, will entitle the holder to purchase, at the exercise price, shares of common stock having a market price of two times the exercise price. Rights associated with shares held by a person or group of affiliated or associated persons acquiring 15% or more of our stock will be null and void.

The rights will have the effect of diluting the ownership interest of any person or group attempting to acquire a substantial interest in WPS Resources, unless our Board of Directors agrees to redeem the rights in order to permit the acquisition. As a result, the rights may substantially reduce the likelihood of a change in control of WPS Resources that is not approved by our Board.

S-11

FORWARD-LOOKING STATEMENTS

Except for historical data and statements of current fact, the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus constitutes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933. Any references to plans, goals, beliefs or expectations in respect to future events and conditions or to estimates are forward-looking statements. Although we believe that statements of our expectations are based on reasonable assumptions, forward-looking statements are inherently uncertain and subject to risks and should be viewed with caution. Actual results or experience could differ materially from the forward-looking statements as a result of many factors. Forward-looking statements included or incorporated in this prospectus supplement and the accompanying prospectus include, but are not limited to statements regarding:

expectations regarding future revenues or expenses,

estimated future capital expenditures,

expected costs of purchased power in the future,

costs of decommissioning generation facilities,

recovery of deferred costs,

future cleanup costs associated with manufactured gas plant sites and

statements in Management's Discussion and Analysis of Financial Condition and Results of Operations regarding trends or estimates, incorporated by reference from our annual report on Form 10-K for the year ended December 31, 2002, our Current Report on Form 8-K dated August 1, 2003 and quarterly reports on Form 10-Q for the quarters ended March 31, 2003, June 30, 2003, and September 30, 2003.

Edgar Filing: WPS RESOURCES CORP - Form 424B5

We cannot predict the course of future events or anticipate the interaction of multiple factors beyond our control and their effect on revenues, project timing and costs. Some risk factors that could cause results different from any forward-looking statement include those described in the Risk Factors section of this prospectus supplement and the accompanying prospectus and the following:

General economic, business, and regulatory conditions

Legislative and regulatory initiatives regarding deregulation and restructuring of the utility industry which could affect costs and investment recovery

State and federal rate regulation, including the inability to obtain necessary regulatory approvals

Changes in generally accepted accounting principles

Growth and competition and the extent and timing of new business development in the markets of subsidiary companies

The performance of projects undertaken or acquired by subsidiary companies

Business combinations among our competitors and customers

Energy supply and demand

Financial market conditions, including availability, terms, and use of capital

Nuclear and environmental issues

Weather and other natural phenomena

Commodity price and interest rate risk

Counter-party credit risk

Federal and state tax policies

Acts of terrorism or war

S-12

USE OF PROCEEDS

The information in this section supplements the information in the "Use of Proceeds" section beginning on page 5 of the accompanying prospectus. Please read these two sections together.

Edgar Filing: WPS RESOURCES CORP - Form 424B5

We will add the net proceeds from the sale of our common stock to our general funds. We expect to use our general funds to retire up to \$50 million of trust preferred securities, to reduce short-term debt, to fund equity contributions to subsidiary companies and for general corporate purposes. On November 10, 2003, WPS Resources had an aggregate of approximately \$151 million of short-term borrowings, which had maturities of up to 30 days and had a weighted average annual interest rate of 1.14%.

S-13

UNDERWRITING

Subject to the terms and conditions set forth in the underwriting agreement, we have agreed to sell to each of the underwriters named below, and each of the underwriters has severally agreed to purchase, the number of shares of our common stock set forth opposite the name of each underwriter.

Underwriter	Number of Shares
A.G. Edwards & Sons, Inc.	
Robert W. Baird & Co. Incorporated	
Edward D. Jones & Co., L.P.	
The Williams Capital Group, L.P.	
Total	3,500,000

Under the terms and conditions of the underwriting agreement, the underwriters have agreed to take and pay for all the shares of common stock offered by this prospectus supplement and prospectus, if any are taken.

The underwriters are offering the shares of our common stock, subject to prior sale, when, as and if issued to and accepted by them, subject to conditions contained in the underwriting agreement. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act of 1933, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

Over-allotment Option. We have granted an option to the underwriters to purchase up to an aggregate of 525,000 additional shares of our common stock at the public offering price less the underwriting discount. The underwriters may exercise this option for 30 days from the date of this prospectus supplement solely to cover any over-allotments. If the underwriters exercise this option, each underwriter will be obligated, subject to the conditions contained in the underwriting agreement, to purchase a number of additional shares of our common stock proportionate to the number initially purchased by that underwriter as reflected in the above table.

Offering Price, Concessions and Reallowances. The underwriters have advised us that they propose initially to offer the shares of our common stock to the public at the public offering price on the cover page of this prospectus supplement and to certain securities dealers at that price less a concession not in excess of \$ per share. The underwriters may allow and such dealers may reallow, a discount not in excess of \$ per share to other dealers. After we release the shares of common stock for sale to the public, the underwriters may vary the offering price and other selling terms from time to time.

Price Stabilization and Short Positions. In connection with this offering, the rules of the Securities and Exchange Commission permit the underwriters to engage in transactions that stabilize the price of the common stock. Those transactions may consist of bids or purchases for the purpose of pegging, fixing or maintaining the price of the common stock.

If the underwriters create a short position in the common stock in connection with the offering (*i.e.*, if they sell more shares than are listed on the cover of this prospectus supplement), the underwriters may reduce that short position by purchasing shares in the open market. The underwriters may also elect to reduce any short position by exercising all or part of the over-allotment option

S-14

described above. Purchases of the common stock to stabilize its price or to reduce a short position may cause the price of the common stock to be higher than it might be in the absence of those purchases.

Neither the underwriters nor we make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of the common stock. In addition, neither the underwriters nor we make any representation that the underwriters will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Restrictions on Sales of Similar Securities. We have agreed that, for 90 days after the date of this prospectus supplement, we will not directly or indirectly sell, offer or enter into an agreement to sell, grant any option for the sale of, or otherwise dispose of any shares of our common stock or securities convertible into, or exercisable for, shares of our common stock, except for securities offered and sold under our Stock Investment Plan, our employee or director benefit or compensation plans and this prospectus supplement and the accompanying prospectus, unless we have first obtained the written consent of the underwriters. We have also agreed not to file during that period, without the prior written consent of the underwriters, a registration statement with the Securities and Exchange Commission relating to the sale of shares of our common stock or securities convertible into, or exercisable for, shares of our common stock, except for any registration statement related to our Stock Investment Plan or our employee or director benefit or compensation plans.

Other Relationships. Certain of the underwriters and their affiliates have engaged and in the future may engage in investment banking transactions with, and provide services to, WPS Resources or its subsidiaries in the ordinary course of business.

LEGAL MATTERS

Our counsel, Foley & Lardner, Milwaukee, Wisconsin, will issue its opinion as to the validity of the shares of common stock being issued. Schiff Hardin & Waite, Washington, D.C., will issue an opinion for the underwriters as to certain matters relating to the offering of the shares of common stock.

S-15

PROSPECTUS

WPS RESOURCES CORPORATION

700 North Adams Street
P.O. Box 19001
Green Bay, Wisconsin 54307-9001
\$350,000,000

DEBT SECURITIES COMMON STOCK COMMON STOCK PURCHASE RIGHTS

We may offer these securities in amounts, at prices and on terms determined at the time of offering. We will provide specific terms of these securities in supplements to this prospectus. Our common stock is traded on the New York Stock Exchange under the symbol "WPS".

Edgar Filing: WPS RESOURCES CORP - Form 424B5

You should read this prospectus and any supplement carefully before you invest.

See "Risk Factors" on page 5 for a discussion of certain risks that prospective investors should consider before investing in our securities.

These securities have not been approved by the Securities and Exchange Commission or any state securities commission, nor have these organizations determined that this prospectus is accurate or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is September 8, 2003.

TABLE OF CONTENTS

	<u>Page</u>
Summary	1
Risk Factors	5
The Company	5
Use of Proceeds	5
Description of Debt Securities	6
Description of Common Stock	15
Plan of Distribution	19
Legal Matters	20
Experts	20

This prospectus is a part of the registration statement that we filed with the Securities and Exchange Commission. You should read this prospectus together with the more detailed information regarding our company, our securities and our financial statements and notes to those statements that appear elsewhere in this prospectus or that we incorporate in this prospectus by reference.

You should rely on the information contained in, or incorporated by reference in, this prospectus and in any accompanying prospectus supplement. We have not authorized anyone to provide you with information different from that contained in, or incorporated by reference in, this prospectus or any prospectus supplement. You should not assume that the information in this prospectus or any prospectus supplement is accurate as of any date other than the date on the front of the prospectus or prospectus supplement, as applicable.

SUMMARY

This summary highlights selected information from this document and may not contain all of the information that is important to you. To understand the terms of our securities, you should carefully read this document with the attached prospectus supplement. Together these documents will give the specific terms of the securities we are offering. You should also read the documents we have incorporated by reference into this prospectus for information on us and our financial statements.

The Securities We May Offer

This prospectus is part of a registration statement (No. 333-104787) that we filed with the Securities and Exchange Commission utilizing a "shelf" registration process. Under this shelf process, we may offer from time to time up to \$350,000,000 of the following securities: debt securities and common stock with associated common stock purchase rights. This prospectus provides you with a general description of the securities we may offer. Each time we offer securities, we will provide you with a prospectus supplement that will describe the specific amounts, prices and terms of the securities being offered. The prospectus supplement may also add, update or change information contained in this prospectus.

Debt Securities

We may offer unsecured general obligations of our company, which may be senior or subordinated. We will refer to the senior debt securities and the subordinated debt securities together in this prospectus as the "debt securities". The senior debt securities will have the same rank as all of our other unsecured, unsubordinated debt. The subordinated debt securities will be entitled to payment only after payment on our senior indebtedness. Senior indebtedness includes all indebtedness for money borrowed by us, except our currently outstanding junior subordinated deferrable interest debentures due 2038 and any indebtedness issued in the future that is stated to be not superior to, or to have the

same rank as, the subordinated debt securities. Currently, we may not issue indebtedness that ranks junior to our junior subordinated deferrable interest debentures due 2038.

Claims of creditors and any preferred shareholders of each of our subsidiaries will have priority with respect to the assets and earnings of such subsidiaries over the claims of our creditors. The debt securities therefore will be effectively subordinated to creditors, including holders of secured indebtedness, and preferred shareholders of our subsidiaries.

The senior debt securities will be issued under an indenture between us and U.S. Bank National Association, formerly known as Firststar Bank, National Association. We may amend or supplement the indenture from time to time. The subordinated debt securities will be issued under an indenture between us and the trustee we name in a prospectus supplement. We encourage you to read the indentures, which are exhibits to this registration statement (as incorporated by reference), and our recent periodic and current reports that we file with the Securities and Exchange Commission.

Summary of Material Indenture Provisions that Apply to Senior and Subordinated Debt Securities

Neither indenture limits the amount of debt that we may incur. In addition, neither indenture provides holders with any protection should there be a recapitalization or restructuring involving our company.

The indentures allow us to merge or consolidate with another company, or to sell all or most of our assets to another company. If these events occur, the other company will be required to assume our responsibilities relating to the debt securities, and we will be released from all liabilities and obligations.

1

The indentures provide that holders of a majority of the outstanding principal amount of any series of debt securities may vote to change our obligations or your rights concerning that series. However, to change the amount or timing of payments of principal or interest or other payments for a series of debt securities, every holder in the series must consent.

We may discharge our obligations under the indenture relating to the senior or subordinated debt securities by depositing with the trustee sufficient funds or government obligations to pay the senior or subordinated debt securities when due.

EVENTS OF DEFAULT. Each indenture provides that the following are events of default:

If we do not pay interest for 30 days after its due date.

If we do not pay principal or premium when due.

If we continue to breach a covenant in the debt securities of the series or in the applicable indenture respecting that series for 60 days after notice.

If we enter bankruptcy or become insolvent.

If an event of default occurs with respect to any series of debt securities, the trustee or holders of 25% of the outstanding principal amount of that series may declare the principal amount of the series immediately payable. However, holders of a majority of the principal amount may rescind this action. If the event of default is due to our bankruptcy or insolvency, the outstanding principal amount of all the debt securities will become immediately payable, without any action on the part of the trustees or the holders of the debt securities.

Summary of Material Indenture Provisions that Apply Only to Senior Debt Securities

Under the senior indenture, our failure to pay when due, subject to any applicable grace period, any principal of, or interest on, any indebtedness for borrowed money incurred or guaranteed by us in the aggregate principal amount of at least \$50,000,000 constitutes an event of default.

Edgar Filing: WPS RESOURCES CORP - Form 424B5

The senior indenture requires us, so long as any senior debt securities are outstanding:

to own all of the outstanding shares of voting common stock of Wisconsin Public Service Corporation unless we transfer the shares pursuant to our merger or consolidation or sale of substantially all of our properties.

not to pledge or grant a security interest or permit any pledge, security interest or other lien upon any common stock of any of our subsidiaries owned directly or indirectly by us to secure indebtedness for money borrowed without securing the senior debt securities equally and ratably with the other secured indebtedness except for:

pledges, security interests or encumbrances created to secure the purchase price of the common stock of our subsidiaries,

liens and security interests existing at the time of our acquisition of the shares or

any extension or renewal of any permitted pledge, security interest or encumbrance.

Summary of Material Indenture Provisions that Apply Only to Subordinated Debt Securities

The subordinated debt securities will be subordinated to all senior indebtedness. In addition, as previously noted under "Debt Securities", claims of the creditors and preferred shareholders of each of our subsidiaries will have priority with respect to that subsidiary's assets and earnings over the claims of our creditors, including holders of the subordinated debt securities. The subordinated debt securities, therefore, will be effectively subordinated to creditors and preferred shareholders of our subsidiaries.

2

Common Stock

We may offer shares of our common stock, par value \$1.00 per share. Holders of our common stock are entitled to receive dividends when and if declared by the Board of Directors. Each holder of our common stock is entitled to one vote per share. The holders of our common stock have no preemptive rights or cumulative voting rights. Our restated articles of incorporation do not presently authorize our company to issue preferred stock or other stock having rights prior to those of the holders of our common stock.

Each share of our common stock will have an associated right to purchase one share of our common stock at an exercise price of \$85 per share. The rights are not presently exercisable. Under certain circumstances, however, each right will entitle the holder to purchase at the exercise price our common stock having a market value of twice the exercise price. See "DESCRIPTION OF COMMON STOCK Pre-emptive Rights; Common Stock Purchase Rights" in this prospectus.

Ratios of Earnings to Fixed Charges

The ratio of earnings to fixed charges for each of the periods indicated are as follows:

	YEAR ENDED DECEMBER 31,				
	2002	2001	2000	1999	1998
Ratio of earnings to fixed charges	2.9	2.1	2.1	2.8	2.8

We have computed the ratio of earnings to fixed charges by dividing earnings, which includes income before taxes and fixed charges, by fixed charges. This calculation excludes the effects of accounting changes which have been made over time. "Fixed charges" consist of (1) interest on debt and a portion of rentals determined to be representative of interest and (2) the preferred stock dividend requirements of our subsidiaries. The preferred stock dividend requirements of our subsidiaries were assumed to be equal to the pre-tax earnings that would be required to cover such dividend requirements based on our effective income tax rates for the respective periods.

Where You Can Find More Information

We file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission. We also filed a Registration Statement on Form S-3, including exhibits, under the Securities Act of 1933 with respect to the securities offered by this prospectus. This prospectus is a part of that registration statement, but does not contain all of the information included in the registration statement or the exhibits to the registration statement. You may read and copy the registration statement and any other document we file at the Commission's public reference room at 450 Fifth Street, N.W., Washington, D.C., 20549. Please call the Commission at 1-800-SEC-0330 for further information on the public reference rooms. Our Securities and Exchange Commission filings are also available to the public at the Commission's web site at <http://www.sec.gov> or on our website located at <http://www.wpsr.com>.

The Securities and Exchange Commission allows us to "incorporate by reference" into this prospectus the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the Commission will automatically update and supersede this information. We incorporate by reference the documents listed below and

3

any future filings made with the Securities and Exchange Commission under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 until our offering is completed:

- i. Annual Report on Form 10-K for the year ended December 31, 2002 (as updated by the Current Report on Form 8-K dated August 1, 2003);
- ii. Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2003;
- iii. Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2003;
- iv. Current Report on Form 8-K dated August 1, 2003;
- v. Current Report on Form 8-K dated May 14, 2003;
- vi. Description of Common Stock contained in Registration Statement on Form 8-B filed on June 1, 1994; and
- vii. Description of Common Stock Purchase Rights contained in Registration Statement on Form 8-A filed on December 13, 1996.

You may request a copy of these filings, at no cost, by writing to or telephoning us at our principal executive offices:

WPS Resources Corporation
Attn: Secretary
700 North Adams Street
P.O. Box 19001
Green Bay, Wisconsin 54307-9001
(920) 433-1727

You should rely only on the information incorporated by reference or provided in this prospectus or any prospectus supplement. We have not authorized anyone else to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus or any prospectus supplement is accurate as of any date other than the date on the front of the prospectus or the prospectus supplement.

4

RISK FACTORS

You should carefully consider the risk factors discussed under the caption "Risk Factors," beginning on page 24, in our Annual Report on Form 10-K for the year ended December 31, 2002, as filed with the SEC on March 10, 2003 (such risk factors may from time to time be amended, supplemented or superseded by other filings that we make with the SEC in the future), which we have incorporated by reference herein, and the risk factors discussed in any other documents incorporated by reference herein (such risk factors may from time to time be amended, supplemented or superseded by other filings that we make with the SEC in the future). In addition, if required or advisable, the prospectus supplement applicable to the securities we offer will contain a discussion of the risks applicable to an investment in WPS Resources Corporation and to the particular types of securities that we are offering under that prospectus supplement.

THE COMPANY

We are a holding company, based in Green Bay, Wisconsin. Our principal subsidiary is Wisconsin Public Service Corporation, a regulated electric and natural gas utility that generates and distributes energy in northeastern Wisconsin and an adjacent portion of Michigan. Our other major subsidiaries include Upper Peninsula Power Company, a regulated electric utility operating in the northern half of Michigan's Upper Peninsula, and two nonregulated subsidiaries, WPS Power Development, Inc. and WPS Energy Services, Inc. WPS Power Development, Inc., develops, owns and operates nonregulated electric generation facilities and steam production facilities in various locations in the United States and New Brunswick, Canada, as well as a portion of a synthetic fuel processing facility. WPS Energy Services, Inc., provides energy and related products and services in the nonregulated energy market in the northeast quadrant of the United States and Canada.

In 2002, our regulated operations contributed \$79.4 million to our net income and our two nonregulated subsidiaries contributed \$35.0 million to our net income. WPS Resources' operations as a holding company, the operations of WPS Resources Capital Corporation, an intermediate holding company for our nonregulated subsidiaries, and the non-utility operations of Wisconsin Public Service and Upper Peninsula Power as a whole experienced a net loss of \$5.0 million in 2002. Our executive offices are at 700 North Adams Street, P.O. Box 19001, Green Bay, Wisconsin 54307. Our telephone number is (920) 433-4901.

USE OF PROCEEDS

Unless otherwise specified in the applicable prospectus supplement, we will use the net proceeds we receive from the sale of the securities offered by this prospectus and the accompanying prospectus supplement for general corporate purposes. General corporate purposes may include the repayment of debt and investments in or extensions of credit to our subsidiaries. We may invest the net proceeds temporarily or apply the net proceeds to repay short-term debt until we use the net proceeds for one of these stated purposes.

5

DESCRIPTION OF THE DEBT SECURITIES

The following description of the material terms of the debt securities sets forth general terms that may apply to the debt securities. The particular terms of any series of debt securities will be described in the prospectus supplement relating to those debt securities.

The debt securities will be either our senior debt securities or our subordinated debt securities. The senior debt securities will be issued under an indenture dated as of October 1, 1999 between us and U.S. Bank National Association (f/k/a Firstar Bank, National Association), Saint Paul, Minnesota, as trustee. This indenture is referred to as the "senior indenture". The subordinated debt securities will be issued under an indenture to be entered into between us and the trustee named in a prospectus supplement. This indenture is referred to as the "subordinated indenture". This prospectus refers to the senior indenture and the subordinated indenture together as the "indentures".

The following is a summary of all of the material terms of the indentures. Copies of the entire indentures are filed as exhibits to the registration statement of which this prospectus is a part. Section references below are to the section in the applicable indenture. The referenced sections of the indentures are incorporated by reference.

General

Edgar Filing: WPS RESOURCES CORP - Form 424B5

Neither indenture limits the amount of debt securities that we may issue. Each indenture provides that debt securities may be issued up to the principal amount authorized by us from time to time. The senior debt securities will be unsecured and will have the same rank as all of our other unsecured and unsubordinated debt. The subordinated debt securities will be unsecured and will be subordinated and junior to all senior indebtedness.

The debt securities may be issued in one or more separate series of senior debt securities or subordinated debt securities. The prospectus supplement relating to the particular series of debt securities being offered will specify the particular amounts, prices and terms of those debt securities. These terms may include:

the title of the debt securities;

any limit on the aggregate principal amount of the debt securities of the series;

the date on which the debt securities will mature;

the interest rate or rates, or the method of determining those rates;

the date from which interest will accrue or the method for determining such date;

the interest payment dates and the regular record dates;

the places where payments may be made;

any mandatory or optional redemption provisions;

any sinking fund or analogous provisions;

the portion of principal amount of the debt security payable upon acceleration of maturity if other than the full principal amount;

any additions to the events of default or covenants included in the indenture under which the debt securities are issued, as described in this prospectus;

if other than U.S. dollars, the currency or currencies, or units based on or related to currencies, in which payments on the debt securities will be payable;

whether the debt securities will be issued in the form of a global security; and

6

any other specific terms of the debt securities.

The debt securities will be registered debt securities and, unless otherwise specified in the prospectus supplement, will be payable in U.S. dollars in denominations of \$1,000 or an integral multiple of \$1,000. (Sections 2.01 and 3.01)

Some of the debt securities may be issued as original issue discount debt securities. Original issue discount securities bear no interest or bear interest at below-market rates and will be sold at a discount below their stated principal amount. The applicable prospectus supplement will also contain any special tax, accounting or other information relating to original issue discount securities or to other kinds of debt securities that may be offered, including debt securities linked to an index or payable in currencies other than U.S. dollars.

Exchange, Registration and Transfer

Debt securities may be transferred or exchanged at the corporate trust office of the security registrar or at any other office or agency maintained by us for those purposes. Except as otherwise described in a prospectus supplement, no service charge will be payable upon the transfer or exchange of debt securities, except for any applicable tax or governmental charge. (Section 3.05) The designated security registrar for the senior debt securities is U.S. Bank National Association, Corporate Trust Services, 180 East Fifth Street, Suite 200, SPTF 0210, Saint Paul, MN 55101. The security registrar for the subordinated debt securities will be designated in a prospectus supplement.

In the event of any redemption of any series of debt securities, we will not be required to:

1. issue, register the transfer of, or exchange, debt securities of any series between the opening of business 15 business days before the date of the mailing of the notice of redemption of the debt securities of that series to be redeemed and the close of business on the date of mailing of the relevant notice of redemption; or
2. register the transfer of, or exchange, any debt security selected for redemption, in whole or in part, except the unredeemed portion of any debt security being redeemed in part. (Section 3.05)

Payment And Paying Agent

We will pay principal, interest and any premium on debt securities which are not global securities at the office of the paying agent. We will make payment of interest on the debt securities which are not global securities by check mailed to the persons in whose names the debt securities are registered on days specified in the indentures or the applicable prospectus supplement. We will also make payments by wire transfer to a U.S. bank designated by a holder of debt securities in an aggregate principal amount of at least \$10,000,000, all of which have the same interest payment dates, upon receipt of a written request from the holder, on or before the record date for the payment, designating the account to which the payment is to be made. (Section 2.05)

If any amount payable on any debt security remains unclaimed at the end of two years after the amount became due and payable, the paying agent will release any unclaimed amounts to us, and the holder of the debt security will look only to us for payment. (Section 10.07)

The paying agent for the senior debt securities is U.S. Bank National Association, Corporate Trust Services, 180 East Fifth Street, Suite 200, SPTF 0210, Saint Paul, MN 55101. The paying agent for the subordinated debt securities will be designated in the applicable prospectus supplement.

Book-Entry Securities

We may initially issue the debt securities of any series in the form of one or more global securities under a book-entry only system operated by a securities depository. Unless otherwise specified in the applicable prospectus supplement, The Depository Trust Company ("DTC"), New York, New York, will act as securities depository for each series of debt securities that are issued as fully-registered securities. The indenture trustee will register in the name of Cede & Co. (DTC's partnership nominee) (or such other nominee as may be requested by an authorized representative of DTC) those securities for which DTC is acting as depository. Individual purchases of book-entry interests in any of the debt securities will be made in book-entry form. So long as Cede & Co., as nominee of DTC, or another nominee of DTC is the securityholder, references in this prospectus to holders of the debt securities or registered owners will mean Cede & Co. or another nominee of DTC, rather than the owners of beneficial ownership interests in the debt securities.

DTC is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds securities that its direct participants deposit with DTC. DTC also facilitates the settlement among DTC participants of securities

transactions such as transfers and pledges of deposited securities through electronic computerized book-entry changes in accounts of DTC direct participants, thereby eliminating the need for physical movement of securities certificates. DTC direct participants include securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. DTC is owned by a number of the DTC direct participants and by the New York Stock Exchange, Inc., the American Stock Exchange, Inc., and the National Association of Securities Dealers, Inc. Access to the DTC system is also available to others, such as securities brokers and dealers, banks and trust companies that clear through or maintain a custodial relationship with a DTC direct participant, either directly or indirectly. The rules applicable to DTC and its participants are on file with the Securities and Exchange Commission.

Anyone desiring to purchase debt securities under the DTC system must make these purchases by or through DTC direct participants which will receive a credit for the debt securities on DTC's records. The direct and indirect participants will in turn record the ownership interest of each actual purchaser of the debt securities on the records of the direct or indirect participant. DTC will not provide beneficial owners of the debt securities with written confirmations of their purchases. Owners of book-entry interests should receive from the direct or indirect participant written confirmations of their purchases providing details of the beneficial owners transactions, as well as periodic statements of their holdings. DTC direct and indirect participants are to effect transfers of beneficial ownership interests by entries made on the books of the DTC direct or indirect participants acting on behalf of the beneficial owners. Owners of beneficial interests in the debt securities will not receive or be entitled to receive certificates representing their ownership interests in the debt securities, except as described below upon the discontinuance of the use of the book-entry system.

Principal and the redemption price of, and interest payments on the debt securities held by or on behalf of DTC as depository will be made to Cede & Co., as nominee of DTC (or to such other nominee as may be requested by an authorized representative of DTC). DTC's practice is to credit the accounts of DTC direct participants upon DTC's receipt from the issuer or trustee of funds and corresponding detail information on a payment date in accordance with their respective holdings shown on the records of DTC. Payments by DTC direct and indirect participants to owners of beneficial ownership interests in the debt securities will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such DTC direct or indirect participant and not of DTC, the indenture trustee or us, subject to any statutory or regulatory requirements as may be in

8

effect from time to time. DTC is responsible for disbursing such payments to the appropriate DTC direct participants, and those DTC direct participants, and any indirect participants, are in turn responsible for disbursing the payment to the owners of beneficial ownership interests.

To facilitate subsequent transfers, the indenture trustee will register all debt securities which DTC direct participants deposit with DTC in the name of DTC's partnership nominee, Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC). The deposit of debt securities with DTC and their registration in the name of Cede & Co. effect no change in beneficial ownership. DTC has no knowledge of the actual beneficial owners of the debt securities; DTC's records reflect only the identity of the DTC direct participants to whose accounts the debt securities are credited, which may or may not be the beneficial owners. The participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to DTC direct participants, by direct participants to indirect participants, and by direct participants and indirect participants to beneficial owners of debt securities will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

The indenture trustees will send redemption notices to DTC. If we are redeeming less than all of the debt securities within an issue, DTC's practice is to determine by lot the amount of the interest of each direct participant in such issue to be redeemed.

Neither DTC nor Cede & Co. or any other nominees of DTC will consent or vote with respect to the debt securities. Under its usual procedures, DTC will mail an omnibus proxy to us as soon as possible after the record date. The omnibus proxy assigns the consenting or voting rights of Cede & Co. or other nominee of DTC to those DTC direct participants to whose accounts the debt securities are credited on the record date (identified in a listing attached to the omnibus proxy).

DTC may discontinue providing its services as debt securities depository with respect to the debt securities at any time by giving reasonable notice to us or the indenture trustee. Under these circumstances, in the event that a successor securities depository is not obtained, debt security certificates are required to be printed and delivered.

We may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, we will cause debt security certificates to be printed and delivered.

The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that we believe to be reliable, but neither we, the indenture trustees nor any underwriter takes any responsibility for the accuracy of the description of DTC's business organization and procedures.

Neither we nor the trustees under the indentures will have any responsibility or obligation to any DTC direct or indirect participant or any owner of a book-entry interest or any other person not shown on the registration books of the trustees as being a holder of the debt securities with respect to: (1) any debt securities; (2) the accuracy of any records maintained by DTC or any DTC direct or indirect participant; (3) the payment by DTC or any DTC direct or indirect participant of any amount due to any owner of a book-entry interest in respect of the principal or redemption price of or interest on the debt securities; (4) the delivery by DTC or any DTC direct or indirect participant of any notice to any owner of a book-entry interest which is required or permitted under the terms of the indentures to be given to holders of the debt securities; (5) the selection of the owners of a book-entry interest to receive payment in the event of any partial redemption of any senior debt securities; or (6) any consent given or other action taken by DTC or its nominee as holder of the debt securities.

9

Limitation On Merger, Consolidation And Certain Sales Of Assets

We may, without the consent of the holders of the debt securities, merge into or consolidate with any other corporation, or convey or transfer all or substantially all of our properties and assets to another person provided that:

1. the successor is a corporation;
2. the successor expressly assumes on the same terms and conditions all the obligations under the debt securities and the indentures;
3. immediately after giving effect to the transaction, there is no default under the applicable indenture; and
4. we deliver to the trustees a certificate and an opinion of counsel stating that the transaction complies with the indentures. (Sections 8.01 and 8.02)

The remaining or acquiring corporation will take over all of our rights and obligations under the indentures. (Section 8.03)

There is inherent uncertainty in the phrase "all or substantially all." This uncertainty may make it difficult for holders of the debt securities to (1) determine whether our covenant relating to consolidation, merger and sale of our properties and assets to another person has been breached, (2) declare an event of default and (3) exercise their acceleration rights. Further, interpretation of this phrase as it relates to any transfer of our properties and assets will be governed by applicable law and will be dependent upon the particular facts and circumstances. In the event the holders of the debt securities attempt to exercise their rights under the indenture following the occurrence of a particular transfer or series of transfers that they believe constitutes a transfer of "all or substantially all" of our properties and assets and we contest such exercise, we cannot provide any assurance as to how a court would interpret the phrase "all or substantially all."

Satisfaction And Discharge; Defeasance

We may be discharged from our obligations on the debt securities of any series that have matured or will mature or be redeemed within one year if we deposit with the trustee enough cash to pay all the principal, interest and any premium due to the stated maturity date or redemption date of the debt securities. (Section 4.01)

Each indenture contains a provision that permits either (1) our discharge from all of our obligations with respect to any series of debt securities then outstanding other than our obligations relating to temporary securities issued for the debt securities (Section 3.04), registration of transfer and exchange of the debt securities (Section 3.05), replacement of mutilated, destroyed, lost or stolen debt securities (Section 3.06), maintenance of paying agencies (Section 10.02) and holding money for payment in trust (Section 10.07); or (2) our release from our obligations under covenants respecting any series of debt securities and from the consequences of an event of default resulting from the breach of those covenants other than our obligations relating to temporary securities issued for the debt securities (Section 3.04), registration of transfer and

exchange of the debt securities (Section 3.05), replacement of mutilated, destroyed, lost or stolen debt securities (Section 3.06), the order in which money collected is applied (Section 5.06), the restoration of rights and remedies (Section 5.09), the resignation and removal of the trustee and the appointment of a successor (Section 6.10), the payment of principal and interest (Section 10.01), maintenance of paying agencies (Section 10.02) and holding money for payment in trust (Section 10.07).

To exercise either of these two options, we must deposit in trust with the trustee enough money to pay in full the principal, interest and premium on the series of debt securities. This amount may be made in cash and/or U.S. government obligations. (Sections 13.02 and 13.03) As a condition to

10

exercising either of the above options, we must deliver to the trustee a ruling directed to the trustee from the Internal Revenue Service or an opinion of counsel based on an Internal Revenue Service Ruling or a change in applicable federal income tax law since the date of the indenture, in each case to the effect that the holders of the debt securities will not recognize income, gain or loss for Federal income tax purposes as a result of the action and will be subject to Federal income tax on the same amount, in the same manner and at the same times as would have been the case if the action had not taken place. (Section 13.04)

If we exercise either of these options, the holders of the debt securities of the series affected will be entitled to receive, solely from the trust fund, payments of principal, interest and premium on the debt securities and will not be entitled to any of the other benefits of the indenture, except for limited provisions including our obligations respecting registration of transfer and exchange of debt securities, replacement of lost, stolen or mutilated debt securities, maintenance of paying agencies and holding moneys for payment in trust. (Sections 13.02 and 13.03)

Events Of Default, Notice And Waiver

Each indenture defines an event of default with respect to any series of debt securities as one or more of the following events:

our failure to pay interest on any debt security for 30 days after it is due;

our failure to pay the principal or any premium on any debt securities when due;

our failure to perform any other covenant in the debt securities of the series or in the applicable indenture with respect to debt securities of that series for 60 days after being given notice of the failure; and

our entering into bankruptcy or becoming insolvent.

In addition, under the senior indenture our failure to pay when due, subject to any applicable grace period, any principal of, or interest on, any indebtedness for borrowed money incurred or guaranteed by us in the aggregate principal amount of at least \$50,000,000 constitutes an event of default under the senior indenture. Under each indenture, failure to observe or perform an obligation like replacing mutilated, lost or stolen debt securities of a particular series is an event of default for that series only and not for any other series of debt securities. This is in contrast to defaulting on the payment of interest or principal on a particular series of debt securities, which is an event of default for all other series of debt securities. (Section 5.01)

Each indenture requires the trustee to give the holders of a series of debt securities notice of a default with respect to that series within 30 days unless the default is cured or waived. However, the trustee may withhold this notice if it determines in good faith that it is in the interest of those holders. The trustee may not, however, withhold this notice in the case of a payment default. (Section 6.02)

Other than the duty to act with the required standard of care during an event of default, a trustee is not obligated to exercise any of its rights or powers under either indenture at the request or direction of any of the holders of debt securities, unless the holders have offered to the trustee security or indemnity to its reasonable satisfaction against the potential costs, expenses and liabilities of complying with such request or direction. (Section 6.03) Generally, the holders of a majority in principal amount of outstanding debt securities of any series may direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or other power conferred on the trustee. (Section 5.12)

Under each indenture, if an event of default with respect to any series of debt securities (other than due to events of bankruptcy, insolvency or reorganization) occurs, the trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice in writing to us and to the trustee, may declare the unpaid principal of and accrued interest on all the debt securities of that series to be due and payable immediately and, upon any such declaration, the debt securities of that series will become immediately due and payable.

Under each indenture, if an event of default occurs due to bankruptcy, insolvency or reorganization, all unpaid principal of and accrued interest on the outstanding debt securities of any series will become immediately due and payable without any declaration or other act on the part of the trustee or any holder of any debt security of that series. (Section 5.02)

Under each indenture, the holders of not less than a majority of the principal amount of the outstanding debt securities of any series may rescind a declaration of acceleration and its consequences with respect to the debt securities of a series if:

all existing events of default, other than the nonpayment of principal of and interest on the debt securities of that series that have become due solely as a result of such declaration of acceleration, have been cured or waived;

to the extent lawful, interest on overdue interest and on overdue principal that has become due otherwise than by reason of such acceleration has been paid;

the rescission would not conflict with any judgment or decree of a court of competent jurisdiction; and

all amounts due to the trustee under the indenture have been paid. (Section 5.02)

Each indenture requires us to file annually with the trustee a certificate of our principal executive, financial or accounting officer as to the knowledge of the officer of our compliance with all conditions and covenants under the indenture. (Section 7.04)

Modification of the Indentures

Together with the trustee, we may modify the indentures without the consent of the holders for limited purposes, including adding covenants or events of default, establishing forms or terms of debt securities, curing ambiguities and making certain other changes which do not adversely affect the holders in any material respect. (Section 9.01)

Together with the trustee, we may make modifications and amendments to each indenture with the consent of the holders of a majority in principal amount of the outstanding debt securities of all affected series. However, without the consent of each affected holder, no modification may:

change the stated maturity or interest payment date of any debt security;

reduce the principal, premium (if any) or rate of interest on any debt security;

change any place of payment or the currency in which any debt security is payable;

impair the right to enforce any payment after the stated maturity, payment, or redemption date;

reduce the percentage of holders of outstanding debt securities of any series required to consent to any modification, amendment or waiver under the indenture;

change the redemption provisions of the indenture in a manner adverse to a holder; or

change the provisions of the indenture which relate to its modification or amendment. (Section 9.02)

Governing Law

The indentures and the debt securities will be governed by, and construed under, the laws of the State of Wisconsin.

Concerning The Trustees

We may from time to time enter into arms length transactions and maintain customary banking relationships with the trustee under the senior indenture or the trustee under the subordinated indenture, including but not limited to, maintaining lines of credit, borrowing money, maintaining checking account services and other treasury, depository and cash management services.

Senior Debt Securities

The senior debt securities will be unsecured and will rank equally with the \$150,000,000 principal amount 7.00% Senior Notes due November 1, 2009, and \$100,000,000 principal amount of 5.375% Senior Notes Due December 1, 2012, presently outstanding under the senior indenture and with all of our other unsecured and non-subordinated debt. In the event we are unable or unwilling to satisfy our obligations under the senior indenture (due to insolvency or otherwise) and our debt holders attempt to obtain satisfaction from our subsidiaries, claims of our subsidiaries' creditors and preferred shareholders will have priority with respect to the assets and earnings of the subsidiaries over the claims of our senior debt holders.

Our failure to pay when due, subject to any applicable grace period, any principal of, or interest on, any indebtedness for borrowed money incurred or guaranteed by us in the aggregate principal amount of at least \$50,000,000 constitutes an event of default under the senior indenture.

We agree in the senior indenture that so long as any senior debt securities are outstanding, we will own, directly or indirectly, all of the shares of voting common stock of Wisconsin Public Service Corporation now or hereafter issued and outstanding, unless we transfer or sell these shares in a transaction which complies with the provisions of the senior indenture relating to our merger, consolidation or sale of substantially all of our properties. See "Limitation on Merger, Consolidation and Certain Sales of Assets" in this prospectus. (Section 10.08)

We agree in the senior indenture that so long as any senior debt securities are outstanding, we will not pledge or grant a security interest in, or permit any pledge, security interest or other lien upon, any common stock of any of our subsidiaries owned directly or indirectly by us to secure any indebtedness for money borrowed, without making effective provision to secure the senior debt securities equally and ratably with the other indebtedness and any other indebtedness similarly entitled to be equally and ratably secured. This restriction will not apply, however, to (1) the creation or existence of any pledge, security interest, or encumbrance upon any of the common stock of our subsidiaries (A) created at the time of our acquisition of the common stock or within one year after our acquisition of the common stock to secure all or a portion of the purchase price for the common stock or (B) existing on the common stock at the time of our acquisition of it, or (2) any extension, renewal or refunding of any pledge, security interest, or encumbrance described in clause (1). (Section 10.09)

Subordinated Debt Securities

The subordinated debt securities will be unsecured. The subordinated debt securities will be subordinate in right of payment to all senior indebtedness. (Section 14.01 of Subordinated Indenture) In addition, claims of our subsidiaries' creditors and preferred shareholders will have priority with respect to the assets and earnings of the subsidiaries over the claims of our creditors, including holders of the subordinated debt securities, even though those obligations may not constitute senior

Edgar Filing: WPS RESOURCES CORP - Form 424B5

indebtedness. The subordinated debt securities, therefore, will be effectively subordinated to creditors, including trade creditors, and preferred shareholders of our subsidiaries.

The subordinated indenture defines "senior indebtedness" to mean the principal of, premium, if any, and interest on:

all of our indebtedness for money borrowed;

indebtedness evidenced by securities, debentures, bonds or other similar instruments issued by us;

all of our capital lease obligations;

all of our obligations issued or assumed as the deferred purchase price of property, all of our conditional sales contracts and all of our obligations under any title retention agreements (but excluding trade accounts payable arising in the ordinary course of business);

all of our obligations for reimbursement on any letter of credit, banker's acceptance, security purchase facility or similar credit transaction;

all obligations of the types previously described of other persons for the payment of which we are responsible or liable as obligor, guarantor or otherwise; and

all obligations of the types previously described of other persons secured by any lien on any of our property, whether or not such obligation is assumed by us.

However, the term "senior indebtedness" will not include:

our 7.00% Junior Subordinated Deferrable Interest Debentures due 2038;

any indebtedness which is by its terms subordinated to, or pari passu with, the subordinated debt securities; or

any of our obligations to any of our affiliates.

There is no limitation under either indenture on our ability to issue additional senior indebtedness. The senior debt securities constitute senior indebtedness under the subordinated indenture. The subordinated debt securities will rank equally with our other subordinated indebtedness.

Under the subordinated indenture, no payment may be made on the subordinated debt securities, including any redemption or sinking fund payment if:

any of our senior indebtedness has not been paid when due and any applicable grace period has ended and the default has not been cured or waived or ceased to exist, or

the maturity of any senior indebtedness has been and remains accelerated as a result of a default.

In the event that we pay or distribute our assets to creditors upon any dissolution, winding-up, liquidation or reorganization of us, whether voluntary or involuntary, the holders of senior indebtedness will be entitled to receive payment in full of the senior indebtedness before the holders of subordinated debt securities are entitled to receive or retain any payment. Until the senior indebtedness is paid in full, any payment or distribution to which holders of subordinated debt securities would be entitled but for the subordination provisions of the subordinated indenture

will be made to holders of the senior indebtedness. (Section 14.03 of Subordinated Indenture) If a distribution is made to holders of subordinated debt securities that, due to the subordination provisions, should not have been made to them, those holders of subordinated debt securities are required to pay it over to the holders of the senior indebtedness or their representatives or trustees, as their interests may appear. (Section 14.03 of Subordinated Indenture)

As a result of the subordination provisions contained in the subordinated indenture, in the event of our insolvency, our creditors who are holders of senior indebtedness may recover more, ratably, than the holders of subordinated debt securities.

DESCRIPTION OF COMMON STOCK

The following description of our common stock summarizes all of the material terms and provisions of our common stock. Our restated articles of incorporation and rights agreement are filed as exhibits to the registration statement of which this prospectus is a part and are incorporated by reference into this prospectus.

General

We are authorized to issue up to 200,000,000 shares of capital stock consisting of one class only, designated as "common stock" with a par value of \$1.00 per share. As of August 29, 2003, 32,524,201 shares of our common stock were issued and outstanding.

The outstanding shares of our common stock are, and any additional shares which we may offer will be, listed on the New York Stock Exchange under the symbol "WPS."

Dividend And Liquidation Rights

All shares of our common stock will participate equally with respect to dividends and rank equally upon liquidation, subject to the rights of holders of any prior ranking stock which our shareholders may authorize in the future. In the event of our liquidation, dissolution or winding up, the owners of our common stock are entitled to receive pro rata the assets and funds remaining after satisfaction of all of our creditors and payment of all amounts to which owners of prior ranking stock, if any, then outstanding may be entitled.

Voting Rights

Except as otherwise described in the immediately following paragraphs and under "Certain Statutory and Other Provisions" below, every holder of our common stock has one vote for each share.

Our shareholders do not have cumulative voting rights. As a result, the holders of shares entitled to exercise more than 50% of the voting power of shares entitled to vote, represented at a meeting at which a majority of the shares entitled to vote is represented, are entitled to elect all of the directors to be elected at the meeting. Under our restated articles of incorporation and by-laws, our board of directors is divided into three classes. One class is elected each year for a three-year term.

Provisions of Our Restated Articles of Incorporation with Possible Anti-takeover Effects

In addition to the provisions of our restated articles of incorporation and by-laws dividing our board of directors into three classes, certain other provisions of our restated articles of incorporation may have the effect of delaying, deferring or preventing a change in control of our company.

Article 5 of our restated articles of incorporation provides that, subject to the exception discussed below, a director may be removed only for cause by the affirmative vote of shareholders possessing a majority of the voting power of the then outstanding shares of voting stock. As defined in article 5, "cause" exists only if the director whose removal is proposed has been convicted of a felony by a court of competent jurisdiction and such conviction is no longer subject to direct appeal or such director has been adjudged to be liable for negligence or misconduct in the performance of his duty to us in a matter which has a materially adverse effect on our business, and such adjudication is no longer subject to direct appeal. Article 5 also provides for the removal of a director by the shareholders without cause when such removal is recommended by the "requisite vote" of the directors and approved by the affirmative vote of shareholders possessing a majority of the voting power of the then outstanding shares of voting stock. Our restated articles of incorporation define the term "requisite vote" as the affirmative vote of at least two-thirds of the directors then in office plus one director. Unless "cause" is established or removal is recommended by the requisite vote of the

directors, a director may not be

15

removed from office even if shareholders possessing a majority of the voting power favor such action. Additionally, pursuant to article 5, vacancies on our board of directors, including those resulting from the removal of a director, may be filled for the unexpired portion of the director's term by the majority vote of the remaining members of the board.

Article 5 of our restated articles of incorporation provides that those sections of Article III of our by-laws which set forth the general powers, number, qualifications and classification of directors may be amended or repealed only by the affirmative vote of shareholders possessing at least 75% of the voting power of the then outstanding shares of our common stock generally possessing voting rights in the election of directors, or by the requisite vote of the directors. Article 5 of our articles provides that article 5 may itself be amended or repealed only by the affirmative vote of shareholders possessing at least 75% of the voting power of the then outstanding shares of our common stock generally possessing voting rights in the election of directors.

Statutory Provisions with Possible Anti-takeover Effects

Section 180.1150 of the Wisconsin Business Corporation Law provides that the voting power of shares of a "resident domestic corporation," which includes our company, which are held by any person holding in excess of 20% of the voting power in the election of directors of the issuing public corporation's shares shall be limited to 10% of the full voting power of such excess shares. This statutory voting restriction will not apply to shares acquired directly from us, to shares acquired in a transaction incident to which our shareholders vote to restore the full voting power of such shares, either before or after the acquisition of the shares, and under certain other circumstances.

Except as may otherwise be provided by law, the required affirmative vote of shareholders of a Wisconsin corporation for certain significant corporate actions, including a merger or share exchange with another corporation, sale of all or substantially all of the corporate property and assets, or voluntary liquidation, is a majority of all the votes entitled to be cast on the transaction by each voting group of outstanding shares entitled to vote on the transaction. Sections 180.1130 through 180.1134 of the Wisconsin Business Corporation Law provide generally that, in addition to the vote otherwise required by law or the restated articles of incorporation of a "resident domestic corporation," business combinations must be approved by (a) the holders of at least 80% of the votes entitled to be cast and (b) two-thirds of the votes entitled to be cast by the corporation's outstanding voting shares owned by persons other than a "significant shareholder" who is a party to the transaction or an affiliate or associate of such significant shareholder unless the business combination satisfies certain adequacy-of-price standards intended to provide a fair price for shares held by disinterested shareholders. In general, these adequacy-of-price standards provide that the above-referenced vote does not apply if (1) the aggregate amount of the cash and the market value as of the valuation date of consideration other than cash to be received per share by shareholders of the resident domestic corporation in the business combination is at least equal to the highest of (a) the highest per share price received by any person selling common shares of the same class or series from the significant shareholder whether in the transaction in which the person became a significant shareholder or within the two years before the date of the business combination, (b) the market value per share of the same class or series on the date of the commencement of a tender offer initiated by the significant shareholder, on the date on which the person became a significant shareholder or on the date of the first public announcement of the proposed business combination, whichever is higher, or (c) the highest preferential amount per share to which the holder of shares of the class or series of shares is entitled in a voluntary or involuntary liquidation or dissolution of the resident domestic corporation and (2) the consideration to be received by holders of a class or series of outstanding shares is to be in cash or in the same form as the significant shareholder has previously paid for shares of the same class or series. Section 180.1130 defines "business combination" to include, subject to certain exceptions, a merger or share exchange of the resident domestic corporation or any of its subsidiaries with, or the sale or other

16

disposition of substantially all assets of the resident domestic corporation to, any significant shareholder or affiliate thereof. The statute defines "significant shareholder" generally to mean a person that is the beneficial owner of 10% or more of the voting power of the outstanding voting shares of the resident domestic corporation.

Sections 180.1140 through 180.1145 of the Wisconsin Business Corporation Law provides that a "resident domestic corporation," which includes our company, may not engage in a "business combination" with an "interested stockholder" within three years after the date on which the interested stockholder acquired his or her 10% or greater interest, unless the corporation's board of directors approved the business combination, or the acquisition of the 10% or greater interest, before the stock acquisition date. The statute defines "interested stockholder" as a person beneficially owning 10% or more of the aggregate voting power of the stock of such corporation. If the interested stockholder fails to

obtain such approval by the board of directors, then even after the three-year period, the interested stockholder may complete a business combination with the corporation only with the approval of the holders of a majority of the voting stock not beneficially owned by the interested stockholder, unless the combination satisfies certain adequacy-of-price standards intended to provide a fair price for shares held by non-interested shareholders.

Section 196.795 of the Wisconsin statutes applies to holding companies of Wisconsin public utilities, i.e., companies owning beneficially 5% or more of the voting securities of entities owning, operating, managing or controlling a plant or equipment in the state of Wisconsin for the production, transmission, delivery or furnishing of heat, light, water or power directly or indirectly to or for the public. The statute states that no person may hold or acquire directly or indirectly more than 10% of the outstanding voting securities of a public utility holding company with the unconditional power to vote such securities unless the Public Service Commission of Wisconsin determines, after investigation and an opportunity for hearing, that such holding or acquisition is in the best interests of utility customers, investors and the public. Section 196.795 of the Wisconsin statutes applies to our company.

The sections of the Wisconsin law described in the preceding paragraphs and certain provisions of our articles and by-laws, could have the effect, among others, of discouraging takeover proposals for our company or impeding a business combination between us and one of our major shareholders.

Preemptive Rights; Common Stock Purchase Rights

No holder of our common stock has any preemptive or subscription rights to acquire shares of our common stock except for the common stock purchase rights attached to each share of our common stock.

On December 12, 1996, our board of directors approved the issuance to shareholders as of December 16, 1996, of a dividend of one right for each outstanding share of our common stock. Rights also attach to shares of our common stock issued after that date. A right will attach to each share of our common stock which we may offer pursuant to this prospectus and a prospectus supplement. These rights are not presently exercisable, but ten days after a person or group acquires 15% or more of our common stock or ten business days (subject to extension) after a person or group announces a tender offer to acquire at least 15% of our common stock, the rights will become exercisable. These rights will entitle each holder of our common stock to purchase one share of our authorized but unissued common stock for each right. The exercise price of each right is \$85. Upon the acquisition by any person or group of 15% or more of our common stock, each right, other than rights held by an acquiring party, will entitle the holder to purchase, at the exercise price, shares of our common stock having a market value of two times the exercise price. The agreement setting forth the terms of the rights excludes from its effect the inadvertent acquisition of 15% or more of our common stock, provided there is prompt divestment to less than 15%. We may redeem the rights or may, under certain circumstances, exchange the rights for shares of our common stock, all as provided and subject to the

17

limitations set forth in the agreement setting forth the terms of the rights; otherwise, such rights expire on December 11, 2006.

The rights have anti-takeover effects. The rights will cause substantial dilution to a person who attempts to acquire control of our company without the prior approval of our board of directors. The rights will not affect a transaction approved by our board of directors, because our board has the power to redeem the rights in connection with a transaction that it approves.

Conversion Rights, Redemption Provisions and Sinking Fund Provisions.

Our common stock is not convertible, is not redeemable and has no sinking fund.

Liability to Further Calls or to Assessment

The shares of our common stock which we may offer pursuant to this prospectus and a prospectus supplement will, upon payment of the purchase price, be fully-paid and non-assessable by us, except for certain statutory personal liability which may be imposed upon shareholders under Section 180.0622(2)(b) of the Wisconsin Business Corporation Law. The substantially identical predecessor to that statute has been judicially interpreted to mean that shareholders of a Wisconsin corporation are subject to personal liability, up to an amount equal to the consideration for which their shares were issued (instead of the aggregate par value in the case of shares with par value, as the statute states), for all debts owing to employees of the corporation for services performed for the corporation, but not exceeding six months service in any one case.

Restriction on Dividends Payable by Wisconsin Public Service Corporation

We are a holding company, and our ability to pay dividends is largely dependent upon the ability of our subsidiaries to pay dividends to us. The Public Service Commission of Wisconsin has by order restricted our principal subsidiary Wisconsin Public Service Corporation to paying normal dividends on its common stock of no more than 109% of the previous year's common stock dividend. The Public Service Commission of Wisconsin also requires Wisconsin Public Service Corporation to maintain a capital structure (i.e., the percentages by which each of common stock, preferred stock and debt constitute the total capital invested in a utility) which has a common equity range of 54% to 58%. Each of these limitations may be modified by a future order of the Public Service Commission of Wisconsin. Our right to receive dividends on the common stock of Wisconsin Public Service Corporation is also subject to the prior rights of that corporation's preferred shareholders and to provisions in that corporation's restated articles of incorporation. The provisions in the restated articles of Wisconsin Public Service Corporation provide (1) that if Wisconsin Public Service Corporation's "capitalization ratio" (namely, the ratio of the capital represented by Wisconsin Public Service Corporation's common stock, including premiums on such common stock, plus the surplus accounts of Wisconsin Public Service Corporation to the total capital and surplus accounts of Wisconsin Public Service Corporation) is 25% or greater, then it may not make any dividend payments that would reduce the capitalization ratio below 25% unless there is no breach of (2) or (3) below; (2) that if the capitalization ratio is 20% or more, but less than 25%, then Wisconsin Public Service Corporation may make dividend payments that do not exceed 75% of its prior twelve month net income; or (3) that if the capitalization ratio is less than 20%, then Wisconsin Public Service Corporation may make dividend payments that do not exceed 50% of its prior twelve month net income.

18

PLAN OF DISTRIBUTION

We may sell the securities:

through underwriters,

through agents, or

directly to a limited number of institutional purchasers or to a single purchaser.

As required by applicable law, these underwriters or agents will be registered broker-dealers or associated persons of registered broker-dealers acting in that capacity. We will describe the plan of distribution for any particular offering of the securities in the corresponding prospectus supplement, in accordance with applicable law.

The prospectus supplement will set forth the terms of the offering of the securities, including the following:

the name or names of any underwriters;

the purchase price and the proceeds we will receive from the sale;

any underwriting discounts and other items constituting underwriters' compensation;

any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers; and

any securities exchanges on which the securities of the series may be listed.

If underwriters are used in the sale, the securities will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The securities may be either offered to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. The obligations of the underwriters to purchase securities will be subject to conditions precedent and the underwriters will be obligated to purchase all the securities of a series if any are purchased. Any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers may be changed from time to time.

We may sell Securities directly or through agents designated by us from time to time. The applicable prospectus supplement will name any agent involved in the offer or sale of the securities, and will set forth any commissions payable by us to that agent. Unless otherwise indicated in the prospectus supplement, any agent will be acting on a best efforts basis for the period of its appointment.

Agents and underwriters may be entitled to indemnification by us against civil liabilities arising out of this prospectus, including liabilities under the Securities Act of 1933, or to contribution with respect to payments which the agents or underwriters may be required to make relating to those liabilities. Agents and underwriters may be customers of, engage in transactions with, or perform services for, us in the ordinary course of business.

Each series of debt securities will be a new issue of securities with no established trading market. Any underwriter may make a market in the securities, but will not be obligated to do so and may discontinue any market making at any time without notice. No assurance can be given as to the liquidity of the trading market for any securities.

19

LEGAL MATTERS

Foley & Lardner, 777 East Wisconsin Avenue, Milwaukee, Wisconsin 53202, our counsel, will pass upon the validity of the debt securities and common stock with attached common stock purchase rights offered pursuant to this prospectus and the prospectus supplements.

EXPERTS

The financial statements as of the years ended December 31, 2002 and 2001 and for each of the three years in the period ended December 31, 2002 and the related financial statement schedules incorporated in this prospectus in the registration statement by reference from our Current Report on Form 8-K dated August 1, 2003 (which report expresses an unqualified opinion and includes an explanatory paragraph relating to the adoption of EITF Issue 02-03, "Issues Involved in Accounting for Derivative Contracts Held for Trading Purposes and Contracts Involved in Energy Trading and Risk Management Activities") have been audited by Deloitte & Touche LLP, independent auditors, as stated in their report, which is incorporated herein by reference and have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

20

3,500,000 Shares

WPS RESOURCES CORPORATION

Common Stock

A.G. Edwards & Sons, Inc.

Robert W. Baird & Co.

Edward D. Jones & Co., L.P.

The Williams Capital Group, L.P.

The date of this prospectus supplement is _____, 2003.

QuickLinks

WPS Resources' Subsidiaries Markets Served by Regulated Utilities

TABLE OF CONTENTS

SUMMARY

The Company

Recent Developments

Summary Consolidated Financial Information (Amounts in millions, except per share amounts)

The Offering

RISK FACTORS

FORWARD-LOOKING STATEMENTS

USE OF PROCEEDS

UNDERWRITING

LEGAL MATTERS

TABLE OF CONTENTS

SUMMARY

RISK FACTORS

THE COMPANY

USE OF PROCEEDS

DESCRIPTION OF THE DEBT SECURITIES

DESCRIPTION OF COMMON STOCK

PLAN OF DISTRIBUTION

LEGAL MATTERS

EXPERTS