DATE	PEER REVIEWER(S)	C
12/4/98	Signature Randy Christopherson Printed Name	D-
12/2/98	Signature Alonzo Knapp Printed Name	D
Authored Initials	Peer Review Not Re	

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December 2, 1998

MEMORANDUM

To: Director, PN, MP, LC, UC, GP
Attention: PN-3300 (Patterson), MP-440 (Tegelman), UC-284 (Loring), GP-2100 (Heidt), BCOO-4400 (Hvinden)

From: Robert B. Hamilton
Manager, Economics Group

Subject: Revised Technical Standards for Irrigation Payment Capacity Analyses

In coordination with the Policy Analysis Office, I am transmitting the subject technical guidance for your information and use. Payment capacity is defined as the estimated residual net farm income of irrigators available for payment of both federal and non-federal water costs. Payment capacity is typically determined through preparation of detailed farm budgets.

These standards will be utilized by the Economics Group in the Technical Service Center for preparation of all future analyses as well as review of analyses prepared by other organizational entities within Reclamation. There are a small number of analyses in various stages of development which will be completed using previous guidelines. The standards were developed to achieve a desirable level of consistency, but they also allow for flexibility on a case-by-case basis.

Many individuals contributed to development of the standards, notably, George St. George (Great Plains Region), Al Reiners (Pacific Northwest Region), Lynn Hansen (Mid Pacific Region), Alan Kleinman (Lower Colorado Region), Ken Beck (Upper Colorado Region), Randy Christopherson (Technical Service Center), Rob Davis (Technical Service Center), and Dennis Nelson (Technical Service Center). This document will eventually be incorporated into an Economics Guidebook, jointly developed by the Program Analysis Office and the Economics Group, which will also address benefit determinations, regional impact analysis, cost allocation, and other economics-related topics.

Please ensure that all interested parties in your region receive a copy of this transmittal. If you have questions concerning the application of the standards, please contact me at (303) 445-2724.

Robert B Hamilton

Attachment

cc: Chief, Washington Liaison and Support, Attention: W-5020 (Handlon)
Director, Policy Analysis Office, Attention: D-5200 (Knapp, Schluntz)
(w/att to each)

bc: D-8270 (File)
(w/att)

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U.S. Bureau of Reclamation
Technical Standards for Irrigation Payment Capacity

Payment Capacity. Payment capacity is the estimated residual net farm income of irrigators available for payment of both federally and non-federally assessed water costs, after deduction for on-farm production and investment expenses as well as appropriate allowances for management, equity, and labor. Payment capacity is determined by estimating on-farm economic and financial conditions expected to occur in the next 5 years with the federal project in place. This 5-year time horizon is based on Reclamation's policy to review ability-to-pay determinations every 5 years for repayment contracts and water service contracts entered into after March 25, 1994. Only "with" project conditions are analyzed, i.e., payment capacity shall not consider conditions that would exist in the absence of the relevant federal water project. Non-farm revenues of individual irrigators shall not be included when estimating payment capacity.

A. **Analytical Methodologies and Tools.** A variety of methodological tools may be employed to calculate payment capacity, provided that the following standards are incorporated in the analysis. Such tools or methodologies include, but are not limited to, crop enterprise or whole farm budgeting, linear programming, quadratic programming, and econometric modeling. When selecting a methodology to calculate payment capacity, the analyst should be aware that water users are more likely to accept the results of the analysis if they understand not only the underlying principles of how the methodology works, but how input values such as prices and costs are derived. Therefore, regardless of the methodology used to calculate payment capacity, the supporting documentation should adequately describe how each of the input values were determined.

B. **Characteristics of Representative Farms.** Payment capacity should be computed in sufficient detail, in terms of actual farm types, farm sizes, and cropping patterns, to reflect representative farm income in the project area. The analysis should model operatorships, not ownerships.

(1) **Farm Types.** Enough farm types should be analyzed to reflect the kinds of farm organization and enterprises which influence the payment capacity of the area as a whole. All enterprises of the typical operator should be included, whether within irrigation district boundaries or not. If the typical Reclamation project irrigator also irrigates lands with water from non-Reclamation sources, those lands should be included. If irrigators integrate nonirrigated crops and pasture and/or livestock enterprises into their farm operation, the analysis should include the income and expenses of those enterprises. In summary, payment capacity should reflect returns to the entire operating unit.

(2) **Farm Size.** In payment capacity studies, farm size should reflect the actual size of typical farm operations subject to the minimum size constraint noted below. In areas where farms of the same general type are

differentiated only by distinct variations in farm size, a separate analysis should be prepared for each representative farm size.

The minimum farm size budgeted should be at least large enough to provide reasonably full employment for the farm operator based on the amount of investment and management expected for the type of farm represented. In areas where a significant number of smaller, part-time farm operations exist, full employment should still determine minimum farm size for the purpose of analysis. Small part-time farms are not included in the payment capacity analysis based, in part, on subsection D of the 1924 Fact Finder's Act which requires the Secretary of the Interior to determine the ability of project lands to '*support a family* and pay water charges' (emphasis added). In addition, part-time farms can be considered to reflect a 'life-style preference' rather than the primary means of earning a living, as is the case with a 'full-time commercial' farm. In some cases, such as farms that produce high value specialty crops, the farm may not provide full employment for the farm operator for the entire year. In such cases, the farm analyzed should be at least large enough to provide full-time employment for the operator through the primary cropping season.

(3) **Cropping Patterns.** Cropping patterns used in the payment capacity analysis should be representative of the major irrigated and nonirrigated crops grown by typical operators in the project area with the project in place. A representative cropping pattern can usually be determined by averaging the most recent 5 years of crop acreage data available. Small acreages of relatively minor crops may be grouped with the most similar major crop represented in the analysis. In cases where the most recent 5 years of crop data do not provide an accurate representation of the expected cropping pattern, adjustments should be documented by the analyst. This may occur, for example, if new crops have been introduced, a drought year has occurred, or local market conditions have changed.

(a) **Fallow or uncropped land.** Fallow, idle, or uncropped land should be included as part of the payment capacity analysis to the extent that such land is financially or operationally integrated with typical farms. For example, land idled to maintain eligibility in various crop production or soil conservation programs should be included in the payment capacity analysis, along with any associated revenues and ownership costs, such as interest and property tax. Costs beyond normal ownership costs (such as herbicide application or tillage costs for weed and pest control) should be justified if included in the analysis.

(4) **Crop Yields.** Crop yields for payment capacity should be established at levels expected to be representative of the next 5 years of operation. Generally, a simple average of the last 5 years of yield data provides a reasonable first estimate of expected yields. Such data is usually available either on a county level or at the district level from Reclamation's crop reports. Data from both sources should be considered and displayed in payment capacity reports, if available. In addition, yield data from published extension studies should be reviewed, and yields should be discussed with extension agents, farm advisors, district personnel, and area farmers.

In some cases, particularly if there is a wide year-to-year variation in yields, the analyst should consider using an averaging period longer than 5 years. However, yield data more than 10 years old may not be reflective of current yield technology and expectations. In cases where the 5-year yield average from published sources is not appropriate, the analyst should document the rationale for alternative yield estimates.

C. **Prices Received.** Prices received by operators are combined with crop and livestock output to derive gross farm income. Prices received should be averaged to account for variation over time and localized to fit the area of investigation as data permits.

Farm program payments not reflected in prices received should be included in gross farm income. In addition, pasture and aftermath grazing receipts should be included, although published or time/series data is usually lacking.

Reclamation's standard procedure for prices received is to average the most recent 5 years of available data. If alternative pricing methods are used in the payment capacity analysis, reasons supporting the alternative methods should be presented in the documentation for technical review. Since crop patterns, yields and prices received often exert a great deal of influence on each other, particularly for speciality crops, the time periods used to determine each of these variables should correspond as much as possible.

It is preferable to use local or county prices received, but, in most cases, published data is not available at lower than the state level. For speciality crops, it is sometimes possible to collect primary data from commercial packers or cooperatives which are more applicable than statewide averages. Although adjustments to state data to meet local conditions can be made, such adjustments must be thoroughly researched and documented.

Prices developed by USDA for use in benefit analyses prepared under the Principles and Guidelines should not be utilized for payment capacity analyses since they reflect national, rather than local, exchange values.

D. **Investment Values.** Several types of farm expense occur as a result of the operator's capital investment in land, improvements, equipment, breeding livestock, and other assets. For example, expenses associated with land include interest on investment and property taxes. Expenses of depreciable assets such as machinery include interest costs, property taxes, and depreciation. The discussion below develops standards for investment values which vary dependent on the expense being considered and data availability. Interest expense, depreciation, and taxes are discussed in more detail in sections E.3., E.4., and E.5. (pages 8-10).

(1) **Land Value.**

(a) **for interest.** For computing interest expense, the investment value of land should reflect its current fair market value based solely on agricultural production rather than a speculative or suburban residential value. Use of market value is necessary to be consistent with data used to compute interest expense, as subsequently discussed. Often market values of agricultural lands can be obtained from knowledgeable land appraisers in the area.

In some cases, because many other factors (such as suitability for urban or commercial development) influence the market value of farmland, alternative methods of determining an appropriate agriculturally-based value may be documented and used. One such method is to use a land value equal to the annual valuation of farmland for property tax purposes, especially where legislation or programs are used to preserve and maintain agricultural land in areas where pressure from urban development exists. Regardless of what land value method is used, the analyst must determine whether irrigation improvement and system costs are included in the value. If these costs are included in the land market value, they should not be double-counted as separate investment items.

In cases where it is difficult to determine an investment value of land for purposes of computing interest expenses, it may be possible to use land rental rates as an annual "proxy" measure of the ownership costs for land and permanent improvements. In such a case, no interest expense is computed; the rental value is simply considered an expense item in the analysis. Since land rental values often include allowances for some operating costs

usually accounted for elsewhere in the analysis, care must be used to ensure that no double-counting occurs. Some farm operation expenses which have the potential to be double-counted include property taxes on land, building, and permanent planting expenses, as well as the cost of irrigation water.

(b) **for property taxes.** The county tax assessor's office should be consulted for the method or formula for computing taxes on land. In some cases, market values are reduced by an adjustment value and, in other cases, assessed valuation may differ significantly from the market value of land determined for interest expense, as discussed above. Regardless of the valuation technique, the goal is to accurately reflect the tax expense.

(2) **Buildings and Other Improvements.**

(a) **for interest.** Depreciable improvements such as buildings, fences, and irrigation systems should be valued at market value for interest expense, similar to land investment. In most cases, market value is difficult to determine for these items; consequently, a value of one-half the current cost of building or installing the improvement can be used to approximate market value. As cautioned previously, if the improvements are included in the market value of land, they should not be included as separate line items to avoid double-counting, either for interest expense or taxes.

(b) **for property taxes.** The county assessor's office should be contacted for valuation of improvements for tax purposes, specific to the case being considered.

(c) **for depreciation.** Improvements should be valued at their full, current cost for calculation of depreciation.

(3) **Orchards, Vineyards, and Other Permanent Crops.**

This section deals with fruit, grape, and nut crops which typically last many years once established. The treatment in this section is not recommended for alfalfa or other hay crops which are re-established every few years. Typically, the total hay acreage is divided between established acres and re-seeding acres and receipts and expenses are handled as if they were separate crops. Other treatments for hay crops may be used if they are computationally equivalent.

(a) **for interest.** In most cases, the market value of permanent crops is included in the market value of land. In cases where it is not, the standard for interest expense is one-half the current costs of establishment. Initial costs of establishing long-term or permanent crops such as orchards or vineyards should be annualized so that these establishment costs can be spread over the life of such crops. An example of how to calculate establishment costs is shown as Attachment 1. In some cases, extension budgets are available to expedite the calculations of establishment costs.

(b) **for property taxes.** The county assessor's office should be contacted for appropriate tax treatment, in cases where permanent crops are accounted for separately from the land.

(c) **for depreciation.** Permanent crops should be valued at the full cost of establishment.

(4) **Machinery and Equipment.**

(a) **for interest.** Similar to other classes of investment assets, the standard for valuation of machinery and equipment for interest purposes is market value. This is required to maintain comparability to the interest rate computation discussed subsequently in section 7 (c). Since market value data is usually unavailable, it is reasonable to assume that on average, machinery and equipment are at their mid-point in useful life and value. Consequently, for the interest computation, they should be valued at the midpoint between purchase price and salvage value. Data bases are available which contain these parameters for most machinery items. Care should be taken to use purchase prices rather than list prices, the latter usually being higher.

(b) **for property taxes.** Some jurisdictions collect taxes on machinery and equipment while other do not; the assessor's office should be contacted for specific treatment.

(c) **for depreciation.** Machinery and equipment should be valued at current purchase price less salvage value.

(5) **Livestock.** If the typical farm contains a breeding herd (e.g., a cow-calf operation) or a dairy herd, they are considered to be capital investment assets necessary for producing farm output (e.g., calves or milk). Consequently, investment interest, depreciation, and possibly taxes need to

be included. Livestock raised for sale (e.g., calves) are not considered capital assets; however, livestock born and raised for herd replacements are. Livestock purchased specifically for re-sale (e.g., feeder calves) are not considered investment assets.

(a) **for interest.** The standard for breeding or dairy herd investment is the market value of an "average age" animal, which may or may not be readily available from local sources. Cull prices are generally available and it may be possible to adjust cull values upward to approximate an average market value, based on professional judgement. Or, if purchase prices are available for replacements, a midpoint value can be used (similar to machinery above).

(b) **for property taxes.** Most counties no longer tax livestock breeding or dairy herds. For those that do, the county assessor usually maintains a listing of assessed values.

(c) **for depreciation.** A specific depreciation expense is not typically computed for breeding herd or dairy herd replacements. For purchased livestock, purchase costs are usually fully expensed; for replacements raised on the farm, expenses for feed, labor, medicine, etc., are included in lieu of depreciation.

E. **Farm Expenses.** Farm expenses are deducted from gross farm income to derive net farm income.

(1) **Input levels.** The amount and types of seed, fertilizer, pesticide, and other inputs should be consistent with both the selected yield levels and representative farm practices of operators. Extension service studies are extremely useful tools in determining input levels, but may represent optimum or recommended practices rather than actual operations. Application of professional judgement will be necessary in dealing with this issue.

(2) **Prices paid.** Reclamation's method for deriving prices of input items depends on whether the prices for such items have fluctuated or consistently increased over time. If the price of an input item has consistently increased over time, the payment capacity analysis should use the most recent year price. If the price of the input has fluctuated over time, a simple 5-year average should be utilized. In most cases, because the prices of inputs usually increase over time, the most recent available price will be used.

If the data for prices paid are not current, they can be indexed using indices published in USDA's *Agricultural Prices*. Price indices are available for a number of different input items.

(3) **Interest costs.** Interest costs should be reflected for both farm investment and annual operating capital (production credit). The investment values of land, improvements, machinery, permanent crops, and livestock should be divided into a debt portion and an equity (operator-owned) portion. Operating capital should also be split into debt and equity (operator-financed) portions. Interest payments on the debt share are calculated using current normalized interest rates applicable to both real estate and non-real estate credit. The procedure for estimating debt interest expense involves the following steps:

(a) Estimate 5-year average of debt/equity relationships based on a time series of state or documented local data for real estate and nonreal estate farm investment.

(b) Calculate interest on real estate debt by applying the 5-year average interest rate for all outstanding farm real estate debt to the debt portion of the farm investment in land and improvements.

(c) Calculate interest on non-real estate debt by applying the 5-year average interest rate for non-real estate to the debt portion of the farm investment in machinery, equipment, and livestock.

(d) Calculate interest on operating capital by applying the 5-year average interest rate for non-real estate against the borrowed portion of variable production costs using the non-real estate debt/equity relationship. Because interest rates are expressed as annual rates, interest on operating capital will require adjustment if operating loans are repaid within a period of less than 1 year. For example, if operators typically obtain a loan in March and do not repay the loan until October, 7 months later, the interest expense would only be 7/12 of the annual amount.

The recommended procedure for calculating interest rates is shown in Attachment 2. The relevant data is available at the state level and is applied to the local area unless documentation can be provided which supports alternative rates.

The Economics Group in the Technical Service Center will maintain a data base and compute debt-equity relationships and interest rates for each

of the 17 Western states. In the event this data is not applicable to specific local conditions, local offices of the Farm Credit System and banks are additional sources of data for interest rates and debt/equity ratios.

Note that this section has addressed interest expense only on the debt share of investment and operating capital. The interest return to farmers' equity is covered subsequently.

(4) **Depreciation.** Annual depreciation costs for machinery, buildings, and any other nonpermanent capital investment should be reflected in the payment capacity analysis. Depreciation charges are based on recovering new purchase prices using a sinking fund factor determined by the useful life of the capital investment and a market rate of interest a representative farm operator could actually obtain. Although there are a variety of investment options available, the standard for the depreciation fund is the 5-year average yield of monthly U.S. Treasury marketable securities with maturities of 5 years. The average yield for the years 1993-1997 is 6.1 percent, rounded to the nearest tenth of a percent. The Economics Group in the Technical Service Center will maintain a data base for this rate, or alternately, this data can be obtained on the Internet at "www.federalreserve.gov."

(a) **Useful life - buildings.** The depreciable life of farm buildings and fences should not exceed 25 years.

(b) **Useful life - machinery.** The period of useful life in years for equipment and machinery should be determined by dividing the total hours of useful life by the actual average hours of annual use on the farm budgeted, but not to exceed 25 years. The useful life of pickups should not exceed 10 years.

(5) **Taxes.** Expenses in the analysis should include those taxes which are chargeable to the farm operation. These include, but are not limited to, property taxes and social security taxes and workers compensation for labor. However, tax expenses included in the payment capacity analysis should be limited to those specifically related to the business aspect of the farm operation and should exclude taxes associated with the personal assets and income of the farm operator. For example, the analysis should not deduct income taxes or the farm operator's social security taxes. These taxes are accounted for and should be paid from the operator's returns to management, labor, and equity (defined and discussed below) rather than treated as a farm operating expense. In addition, property taxes

(or any other expenses) associated with the farm operator's residence or personal use portion of vehicles should be excluded.

(6) **Insurance.** Typical insurance costs required for the farm operation should be included in the payment capacity analysis. These include general liability and fire insurance for farm equipment, buildings, and other improvements. Vehicle insurance costs for pickups and trucks should also be included based on the amount of farm-related versus personal use. Workers compensation costs should be included using rates applicable to the type of farm and crops analyzed.

Crop hazard insurance should not be included in payment capacity analysis because the yields used are based on actual harvest data which accounts for losses due to hail or other natural events. If the analyst can justify inclusion of hazard insurance as a production expense for some reason; then yields should be adjusted upward or alternatively, insurance payments received should be included in farm receipts.

(7) **Repair costs.** Estimated repair costs per hour of use for machinery and equipment can be obtained from enterprise budgets or machinery cost programs and publications. These programs or publications are often available through land grant universities or local extension offices. Annual repair costs for buildings and other improvements may be estimated using a percentage of the purchase price.

(8) **Hired labor expenses.** Secondary data is generally available on labor standards for the crop and livestock enterprises, usually expressed in hours per acre or hours per head. It is assumed that the farm operator is available to work 200 hours per month, or 2400 hours annually; the standard for the operator's family is 75 hours per month during the school year, and 125 hours during the summer months, or 1,050 hours per year. The operator and family labor standards can be adjusted by the analyst, if justified. Any excess labor, either on a monthly or annual basis, is expensed as hired labor in the payment capacity analysis. Hired labor wage rates are generally published on a state basis for the following categories: field, livestock, field/livestock, and supervisory labor. The rate selected should be the rate most appropriate for the representative farm type being analyzed.

(9) **Custom expenses.** If custom operators are typically hired to perform certain production tasks (spraying, harvesting, etc.) those expenses should be displayed as separate line items in the analysis. Consultant and management fees should be handled in the same manner. Care should be

taken to ensure labor estimates and machinery expenses are properly accounted for if custom operations are included.

(10) **Nonproject water expenses.** In many cases, the irrigator receives not only federal project water, but also has nonproject water available for use. If the nonproject water source is groundwater and the wells are owned by individual irrigators, well ownership costs (interest on investment, depreciation, and taxes) and well operating costs (pumping energy and repairs) are generally most easily accounted for at the farm level as expense items in the payment capacity analyses.

If the nonproject water is provided by an outside entity, it is generally recommended to account for these water charges outside the payment capacity analysis prior to determination of the repayment rate. Payment capacity is intended to represent the residual income available for payment of both federally and non-federally imposed water charges (with the exception of direct costs incurred by the irrigator, e.g., wells or river pumping). Alternative treatment may be appropriate in specific cases.

F. **Returns to Operator's Factors of Production.** The above described farm expenses are deducted from farm receipts to derive net farm income. Net farm income essentially reflects the cash-flow of the farm operation. Noncash allowances for the operator's factors of production are deducted from net farm income to determine payment capacity.

(1) **Return to Labor.** A return to the labor of the farm operator and family should be deducted from the net farm income. The farm operator's labor is normally valued at the current wage rate for supervisory farm labor in the project area. Labor performed by the farm operator's family should be valued at the same wage rate as hired farm labor.

(2) **Return to Management.** An allowance of 10 percent of net farm income is made for the farm operator's management ability over and above the supervisory labor rate. The return to management represents an opportunity cost to the farm operator. In other words, the return to management represents the farm operator's ability to earn income by applying his/her management skills in another management operation.

(3) **Return to Equity.** An allowance for the farm operator's equity is also subtracted from net farm income. A rate of 3 percent is applied to the equity (non-debt) share of farm investment and annual operating capital to compute the allowance. This rate is intended to represent the long-term opportunity cost (rate of return) of agricultural investments in the West.

Historical data from USDA used to compute this rate has been subject to periodic re-definition and revision, making consistent annual adjustments difficult. Consequently, the Economics Group in the Technical Service Center will not update the 3 percent rate annually, but will review and make adjustments, as appropriate.

G. **Payment Capacity.** Payment capacity is the residual net farm income, after deduction for operator's allowances, which is available for federal and non-federal water charges. Payment capacity can be expressed on a per acre or per acre-foot basis. If expressed on a per acre basis, residual income is divided by irrigated or irrigable acres rather than total farm acres. The per acre payment capacity is multiplied by the irrigated or irrigable acres in the service area or district to determine the gross dollar amount from irrigators which is available for existing and future water charges.

If payment capacity is expressed on a per acre-foot basis, residual farm income should be divided by the actual irrigation water received, which may differ from the optimum crop irrigation requirement. Payment capacity can then be expanded to the service area or district level by multiplying the per acre-foot amount by total water deliveries.

Attachment 1

ORCHARD DEVELOPMENT COSTS ($/ACRE)

					Interest rate	Indebted-ness					
				Real Estate	8.00%	15.88%			Mature grove yield =		9,020.00
				Non-real Estate	10.00%	51.85%			Harvest cost ($/unit of yield) =		$0.075
	CAPITAL INVESTMENT	COST	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9
1	LAND	$2,250.00	$2,250.00	$2,250.00	$2,250.00	$2,250.00	$2,250.00	$2,250.00	$2,250.00	$2,250.00	$2,250.00
2	IMPROVEMENTS										
3	IRRIGATION SYSTEM	$1,500.00	$1,500.00	$1,500.00	$1,500.00	$1,500.00	$1,500.00	$1,500.00	$1,500.00	$1,500.00	$1,500.00
4	PERMANENT PLANTINGS	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
5	BUILDINGS	$410.00	$410.00	$410.00	$410.00	$410.00	$410.00	$410.00	$410.00	$410.00	$410.00
6	EQUIPMENT & TOOLS	$358.00	$358.00	$358.00	$358.00	$358.00	$358.00	$358.00	$358.00	$358.00	$358.00
7	IMPROVEMENTS SUBTOTAL	$2,268.00	2,268.00	2,268.00	2,268.00	2,268.00	2,268.00	2,268.00	2,268.00	2,268.00	2,268.00
8	TOTAL INVESTMENT	$4,518.00	$4,518.00	$4,518.00	$4,518.00	$4,518.00	$4,518.00	$4,518.00	$4,518.00	$4,518.00	$4,518.00
9	TAXABLE VALUE OF FARM ASSETS										
10	ANNUAL COSTS										
11	PLANTING COSTS		$2,190.00	$250.00	$230.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
12	TOTAL CULTURAL COSTS		1,440.00	637.00	527.00	587.00	327.00	327.00	327.00	327.00	327.00
13	TOTAL HARVEST COSTS		0.00	0.00	67.65	236.78	453.26	676.50	676.50	676.50	676.50
14	OVERHEAD										
15	MISC OVERHEAD		749.00	269.00	254.00	260.00	265.00	265.00	265.00	265.00	265.00
16	TAXES (LAND, MACHINERY, WATER)		87.00	87.00	87.00	87.00	87.00	87.00	87.00	87.00	87.00
17	TOTAL ANNUAL COSTS		$4,466.00	$1,243.00	$1,165.65	$1,170.78	$1,132.26	$1,355.50	$1,355.50	$1,355.50	$1,355.50
18	SUMMARY OF INTEREST BEARING COSTS FOR INTEREST COMPUTATION										
19	CAPITAL INVESTMENT										
20	LAND (LINE 1)		2,250.00	2,250.00	2,250.00	2,250.00	2,250.00	2,250.00	2,250.00	2,250.00	2,250.00
21	IMPROVEMENTS (LINE 7)		2,268.00	2,268.00	2,268.00	2,268.00	2,268.00	2,268.00	2,268.00	2,268.00	2,268.00
22	ANNUAL COSTS (1/2 OF LINE 17)		2,233.00	621.50	582.83	585.39	566.13	677.75	677.75	677.75	677.75
23	NET ACCUMULATED COSTS FROM PREVIOUS YEAR (LINE 35)			$4,639.18	$6,212.34	$7,183.38	$6,699.17	$4,216.45	($160.29)	($4,763.96)	($9,606.34)
24	COMPUTATION OF ANNUAL INTEREST COST										
		PERCENT INDEBTED NESS									
25	LAND	15.88%	$28.58	$28.58	$28.58	$28.58	$28.58	$28.58	$28.58	$28.58	$28.58
26	IMPROVEMENTS	15.88%	28.81	28.81	28.81	28.81	28.81	28.81	28.81	28.81	28.81
27	ANNUAL COSTS	51.85%	115.78	32.22	30.22	30.35	29.35	35.14	35.14	35.14	35.14
28	NET ACCUM COSTS	51.85%	0.00	240.54	322.11	372.46	347.35	218.62	(8.31)	(247.01)	(498.09)
29	TOTAL ANNUAL INTEREST COST		$173.18	$330.16	$409.73	$460.21	$434.10	$311.16	$84.23	($154.47)	($405.55)
30	TOTAL COST (SUM OF LINES 17, 23, & 29)		$4,639.18	$6,212.34	$7,787.72	$8,814.36	$8,265.53	$5,883.11	$1,279.44	($3,562.94)	($8,656.39)
31	LESS: CREDIT FOR CROP INCOME		0.00	0.00	604.34	2,115.19	4,049.08	6,043.40	6,043.40	6,043.40	41,845,383.05
32	PERCENT OF FULL YIELD ATTAINED		0.00%	0.00%	10.00%	35.00%	67.00%	100.00%	100.00%	100.00%	100.00%
33	YIELD (POUNDS)		0	0	902	3,157	6,043	9,020	9,020	9,020	9,020
34	PRICE RECEIVED ($/Unit of Yield)		$0.67	$0.67	$0.67	$0.67	$0.67	$0.67	$0.67	$0.67	$4,639.18
35	NET ACCUMULATED COSTS (LINE 30 MINUS 31)		$4,639.18	$6,212.34	$7,183.38	$6,699.17	$4,216.45	($160.29)	($4,763.96)	($9,606.34)	($41,854,039.44)

Attachment 2

Derivation of Debt Interest Rates

The interest rate for any one specific year is calculated by dividing the interest paid in that year by the average end-of-year debt of the previous year and the current year. For example, based on the series ending in 1995, the derived interest rate for real estate is calculated as shown below:

	1990	1991	1992	1993	1994	1995	5-year average
Farm Debt as of December 31 ($ million)							
Real estate	1,514.0	1,487.0	1,547.0	1,566.0	1,675.0	1,666.0	
Nonreal Estate	1,320.0	1,305.0	1,393.0	1,489.0	1,606.0	1,624.0	
Interest Payments ($ million)							
Real estate		119.7	111.6	117.6	120.7	119.8	
Nonreal Estate		128.5	107.6	131.8	147.6	161.1	
Derived Interest Rate							
Real estate		8.0%	7.4%	7.6%	7.4%	7.2%	7.5%
Nonreal Estate		9.8%	8.0%	9.1%	9.5%	10.0%	9.3%

3400 (Lynn Hansen)

MP 3400

United States Department of the Interior

BUREAU OF RECLAMATION
Washington, D.C. 20240

IN REPLY REFER TO:

D-5200

JUL 7 1999

BUREAU OF RECLAMATION OFFICIAL FILE COPY RECEIVED
JUL 22 1999

CODE	ACTION	SIGNATURE & DATE
3000	[illegible]	7/27/99
1100	cy	made
400	cy	made
3400		9/16
		[illegible]

Rec'd 9/10

MEMORANDUM

To: Regional Director, PN, MP, LC, UC, GP
Attention: PN-1000, MP-100, LC-1000, UC-100, GP-1000

From: Commissioner

Subject: Ability-to-Pay Policy

This memo affirms the ability-to-pay policy, and provides guidance on implementation, as put forth in the memorandum dated March 25, 1994, which stated that Reclamation would do ability-to-pay reviews on a 5-year basis. The March 25, 1994 memorandum was in response to the Office of Inspector General Audit "Repayment of Irrigation Investments by Water Districts: 93-I468", issued February 8, 1993. The audit included a recommendation that Reclamation should provide for the periodic reexamination of ability-to pay computations and that the resulting adjustments would be incorporated into water service and repayment rates in all new contracts and in all existing contracts when they are renewed or amended.

Regional Directors are authorized to amend contracts to include a provision for reexamination every 5 years. We are now at the point where such a provision must be incorporated in numerous contract activities, and we are providing the following guidance to assist you in implementation.

Periodic reviews will occur every 5 years. A full ability-to-pay study will be performed every 10 years. Reviews at the 5-year interval will be based on economic indicators. Further information will follow regarding these indicators. Based on past experience, Reclamation's staff costs and other study costs associated with the 5-year reviews, up to approximately $10,000, are generally administrative costs unrelated to specific contracting actions, and thus they shall be considered nonreimbursable by the contracting entities for up to $10,000. Likewise, for all full reviews, occurring at 10-year intervals or if required at the 5-year interval, past experience suggests that 50 percent of costs are generally administrative costs and will thus be nonreimbursable. Regional Directors have the responsibility to plan and budget for these reviews. Costs for the initial determination of ability-to-pay and other such determinations related to specific new, amended, or renewed contract actions will remain fully reimbursable.

Ref 94003544

Classification	APM 800
Project	GF
Control No.	99006378

Other provisions of the March 25, 1994 memorandum relative to the periodic review remain in place and are reiterated here for the purpose of completeness. The contract term should provide that rates will be adjusted upward based on increases in irrigators' ability-to-pay. It should also provide that the rates will be adjusted downward if the ability-to-pay declines; provided, however, that the downward adjustment cannot result in the lengthening of the repayment period beyond that allowed by Reclamation law. The basis of negotiation should include the mechanism for setting the floor to the lowest rate which may be established by the adjustment provision in the contract. This policy shall apply unless otherwise directed by project-specific legislation or by a determination that Reclamation's action conflicts with State law.

Where consistent with general Reclamation law, project-specific legislation, regulation and policy governing disposition of revenues, the first priority for the use of any funds received from increased payments shall be to reduce the assistance provided by power revenues. The second priority shall be to reduce the repayment period. This policy shall not be construed as "authorizing or permitting lump sum or accelerated repayment of construction costs" as described in section 213 of the Reclamation Reform Act of 1982.

Questions regarding this policy may be directed to either Mr. Larry Schluntz, D-5200, (303) 445-2901 or Ms. Sandie Simons, D-5200 (303) 445-2902.

Concur _____ Non-Concur _____

JUL 13 1999

Assistant Secretary-Water and Science

bc: W-1000, W-5000, D-5000, D-5200, D-5200(Schluntz and Simons), D-8470

LSchluntz/SSimons/HWillems:Current\5200\Contract\Policy\ATP.memo