



INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
400 ARMY NAVY DRIVE  
ARLINGTON, VIRGINIA 22202

REPORT  
NO. 92-039

January 30, 1992

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (HEALTH AFFAIRS)

SUBJECT: Quick-Reaction Report on Construction of Nellis Air Force Base, Nevada, Hospital (Project No. 1FC-0026)

Introduction

We are providing this final quick-reaction report on the construction of a hospital at Nellis Air Force Base (AFB), Nevada, for your information and use. We reviewed the requirements for the proposed construction of a new 129-bed hospital at Nellis AFB. The objective of the audit was to determine if the construction of medical treatment facilities (MTFs) was being planned and programmed to meet essential requirements economically, efficiently, and promptly. The requirements review was performed jointly by the Offices of the Inspectors General of the Departments of Defense (DoD) and Veterans Affairs (VA). The new hospital is being built to replace the existing MTF and to provide additional medical services and facilities to medical beneficiaries of the DoD and the VA. On June 21, 1991, a \$54.8 million contract was awarded to begin construction of the hospital. Congress appropriated construction funds of \$10.0 million in FY 1990 and \$65.3 million in FY 1991 to fund the construction project. Of the total \$75.3 million appropriated, \$66.0 million was provided to DoD and \$9.3 million was provided to VA.

In our opinion, the new 129-bed hospital being constructed at Nellis AFB is not economically justified; however, the Congress has voted as recently as December 1991 to complete the project. The existing MTF, with a capacity of 65 beds, had an average daily occupancy of only 23 beds during FY 1990. In addition, the economic analysis prepared by the Air Force in 1984 and used as the justification for building the new hospital was flawed. Prompt action to terminate the construction contract could save about \$67.6 million. Additionally, estimated net annual operating costs of \$15.2 million could be avoided through project termination. With a planned operational date of August 1994, this equates to a \$45.6 million cost avoidance (\$21.9 million DoD and \$23.7 million VA) during FYs 1995 through 1997.

## Background

Public Law 97-337 provides that an economic analysis must be performed for proposed medical construction projects. The economic analysis should consider projected inpatient and outpatient work load and reasonable availability of health care providers. Initial space requirements are determined for active duty personnel and their dependents only. Space for retirees and their dependents should be constructed only if it is economically justifiable. DoD Instruction 7041.3, "Economic Analysis and Program Evaluation for Resource Management," October 18, 1972, provides guidance on the preparation and disposition of an economic analysis. Public Law 97-174 established a mechanism to promote greater sharing of health care resources between DoD and the VA to reduce the cost of Government health care. As authorized by this law, DoD and VA agreed to construct a new hospital at Nellis AFB and jointly operate it. Air Force construction plans show that DoD will have 77 beds and 320,462 square feet of floor space in the new hospital and VA will have 52 beds and 54,232 square feet of floor space.

Based on FY 1990 data provided by the Office of the Surgeon General, Tactical Air Command, and consideration of base closure unit realignments, there were 49,878 beneficiaries in the Nellis catchment area (a geographic area within a 40-mile radius of a MTF). The FY 1990 Civilian Health and Medical Program of the Uniform Services (CHAMPUS) work load for the Nellis catchment area totaled 18,243 bed days annually (50 beds daily) and 97,296 outpatient visits. We estimate that the new hospital will handle the work load of an additional 7 beds and 41,161 outpatient visits now funded through CHAMPUS.

The existing Air Force MTF for the Nellis AFB catchment area was built to accommodate 65 beds. However, the Defense Medical Information System used by DoD to monitor MTF bed usage showed that during FY 1990 the Nellis MTF had an average monthly patient load ranging from only 17 to 26 beds daily. During FY 1990, the MTF had 226,248 outpatient visits.

The VA operates an outpatient clinic in the catchment area. During FY 1990, the clinic had over 60,000 outpatient visits, but did not provide any inpatient care. Inpatient services were provided by contract in local area hospitals or the patients were sent to other VA hospitals. The VA Inspector General's review of inpatient care showed that, on average, 5 patients were treated in local area hospitals, while 20 patients were treated in VA facilities in another state primarily because the patients required long-term care.

## Discussion

### Department of Defense Review

**Economic analysis.** The Air Force completed a flawed economic analysis for the proposed Nellis AFB project on October 31, 1984. The Assistant Secretary of Defense (Program Analysis and Evaluation) [ASD (PA&E)] reviewed the Air Force economic analysis in October 1986. That review showed that the projected cost savings from replacing the Nellis facility were overestimated. The Air Force did not concur with the ASD (PA&E) review and claimed that the ASD (PA&E) misunderstood the economic analysis. As a result, the Nellis project remained in the military construction program.

Although more current data were available, the DoD used the 1984 economic analysis to justify the project to the Congress and subsequently the Assistant Secretary of Defense (Health Affairs) [ASD (HA)] instructed the Army Corps of Engineers to award the construction contract without revalidating the analysis. A comprehensive, thorough revalidation of the 1984 analysis to reflect current conditions before commencing construction of the new hospital would have shown that the methodology was unrealistic and FY 1991 projected savings, CHAMPUS costs, and patient work load (beneficiary population and inpatient care) in the 1984 economic analysis were overestimated. In addition, the economic analysis did not adequately take into consideration potential staffing shortfalls at the new MTF, or the availability of health care services in the local community that were not fully utilized.

**Methodology.** The methodology used in the economic analysis was unrealistic. The projected savings (\$26.8 million) was based on a comparison of the cost of operating the new hospital (\$31.2 million) with the cost of having no MTF at Nellis, with all health care provided through civilian providers (\$58.0 million). This was not a realistic alternative because an operating MTF was already in place at Nellis AFB and this MTF would continue to provide care to active duty military personnel and their dependents.

**Projected savings.** The analysis was based on the total eligible beneficiary population in the Nellis catchment area and the estimated quantity of work load that would be attracted to the new hospital. The economic analysis estimated the FY 1991 work load for the new hospital to be 26,600 bed days annually (73 beds daily) and 238,372 outpatient visits. We found that the

economic analysis overestimated the growth of CHAMPUS costs and patient work load causing savings to be overestimated by \$25.7 million, leaving a projected savings of \$1.1 million. However, as discussed in the "Operating costs" section of this report, a realistic approach to the analysis shows that net costs to operate the new hospital will increase by about \$7.3 million annually instead of saving \$1.1 million. The adjustments to the \$26.8 million are shown in the chart below and explained in the following paragraphs.

### Economic Analysis and Audit Adjustments

	Adjustments to Projected Annual Savings (\$ Millions)		
	Inpatient	Outpatient	Total
<u>Economic Analysis:</u>			
Projected annual savings *	<u>\$20.2</u>	<u>\$6.6</u>	<u>\$26.8</u>
<u>Audit Adjustments:</u>			
Overestimated cost differential	(15.8)	(3.6)	(19.4)
Existing MTF work load	( 1.3)	(2.7)	(4.0)
Overestimated inpatient work load	( 2.6)	0	(2.6)
Additional outpatient work load	<u>0</u>	<u>0.3</u>	<u>0.3</u>
Total adjustments (net)	(19.7)	(6.0)	(25.7)
Adjusted projected savings	<u>\$ 0.5</u>	<u>\$ 0.6</u>	<u>\$ 1.1</u>

\* Savings based on new hospital costs being lower than CHAMPUS

Our analysis compared FY 1990 actual costs and work load with projected FY 1991 data. We realize there will be some variations between the actual FY 1990 and FY 1991 costs and work load; however, based on the beneficiary population data provided by the Air Force, the changes will be inconsequential. Further, based on current trends, we expect that CHAMPUS costs, per bed day or visit, will continue to decrease in the Nellis AFB catchment area.

Overestimated Cost Differential. The economic analysis overestimated the cost differential associated with CHAMPUS and MTF patient care costs. The economic analysis projected that average cost per bed day (inpatient day) and outpatient visit under CHAMPUS in 1991 would be \$1,349 and \$92, respectively. A revalidation of the CHAMPUS costs would have

shown actual average 1990 costs per inpatient day and outpatient visit to be \$713 and \$79, respectively. Estimated MTF inpatient day costs were also overestimated. A revalidation of these costs would have shown that the cost differentials in the economic analysis were overestimated by an average of \$594 per inpatient day and \$15 per outpatient visit (Enclosure 1). We believe that these cost differences resulted, in part, from congressional and ASD (HA) cost containment policies and beneficiary cost sharing initiatives. As a result, the economic analysis overestimated annual savings in CHAMPUS costs by \$19.4 million, \$15.8 million for inpatient care (\$594 times 26,600 bed days annually) and \$3.6 million for outpatient care (\$15 times 238,372 visits).

Existing MTF Work Load. Projected savings in the economic analysis wrongly included, as a cost avoidance, work load already being performed at the Nellis MTF in support of CHAMPUS eligible patients. Savings would result only if additive work load were transferred to the MTF from CHAMPUS funded providers. In FY 1990, Nellis had a bed occupancy of 8,141 bed days (about 23 beds daily) and 226,248 outpatient visits. The net difference between in-house and CHAMPUS costs was \$164 a bed day and \$12 for an outpatient visit. As a result, the economic analysis further overestimated savings in CHAMPUS costs by \$4.0 million, \$1.3 million for inpatient care (\$164 times 8,141 bed days) and \$2.7 million for outpatient care (\$12 times 226,248 visits).

Overestimated Inpatient Work Load. The economic analysis stated that the inpatient work load would increase to 26,600 bed days annually based on a 75-percent recovery of care historically provided outside the Nellis MTF. For FY 1990 the Nellis MTF reported an occupancy of 8,141 bed days (23 beds daily). Historically, the Nellis MTF provided 78.9 percent of the bed days used for the types of services offered by both the Nellis MTF and CHAMPUS (Enclosure 2). Using the 78.9 percent factor, we estimated that the Nellis MTF could attract an additional 2,522 bed days annually (7 beds daily) from CHAMPUS providers. As a result, the daily requirements for beds could increase from the current annual average of 23 beds per day to 30 beds (10,663 bed days annually). Therefore, the economic analysis overestimated the bed days by 15,937 days (26,600 less 10,663) and the savings by \$2.6 million (15,937 bed days times \$164).

Additional Outpatient Work Load. DoD health care data show that during FY 1990 the outpatient visits for the Nellis MTF totaled 226,248. The Nellis MTF provided 90.1 percent of the patient work load when the same type of services were provided by both the MTF and CHAMPUS (see Enclosure 2). Of the 45,683 CHAMPUS outpatient visits associated with the new services

to be offered, the new hospital can expect to attract an estimated 41,161 (90.1 percent) visits. There could be an additional \$0.3 million in savings (\$12 times 267,409 visits less 238,372 visits projected in the economic analysis) not reflected in the economic analysis.

#### Other factors.

**Beneficiary population.** According to the economic analysis, the Nellis AFB catchment area would experience continued growth justifying the need for the hospital. However, the Air Force provided us data on the beneficiary population in the Nellis catchment area showing that the Nellis MTF and CHAMPUS work load should remain stable from FY 1990 through FY 1994. Enclosure 3 shows that actual FY 1991 beneficiary population, as adjusted for base closure unit realignments, was 13,750 less than the projected FY 1991 population figure of 63,628. The 1991 active duty population is 5,881, or about half of what was projected for 1991 and 4,592 (42.0 percent) less than in 1983. The reduction in the active duty population and its dependents is due primarily to the deactivation of units and the shifting of personnel to other Air Force bases. An additional 31,245 retirees, retirees' dependents, and survivors comprise 62.6 percent of the beneficiary population. This group is the only growing segment of the population; however, it is growing at a rate of only 2.7 percent annually, not 4.0 percent as predicted in the Air Force 1984 economic analysis.

Also, Air Force and VA representatives informed us that both DoD and the VA had included military retirees in their computation for determining total beneficiary population for the new facility. The military retiree represents 24.0 percent of the total DoD beneficiary population of 49,878 beneficiaries in the Nellis catchment area. The economic analysis did not consider the potential double counting of work load.

**Operating costs.** The 1984 analysis showed that the projected operating cost for the new hospital would be \$31.2 million annually for those types of medical services to be performed at the new hospital. This cost does not include dental and neonatal care or special programs such as community health projects. The FY 1990 cost for the types of services (not including the dental, neonatal, and special programs) provided at Nellis MTF was \$19.7 million. Based on our analysis of FY 1990 operating costs and projected staffing and operational requirements for the new hospital, the \$31.2 million annual operating costs appear reasonable.

As shown above, the existing operating cost will increase by \$11.5 million annually (\$31.2 million minus \$19.7 million) because of additional staffing and operational requirements. Of the \$11.5 million increase, only \$4.2 million will be offset by attracting CHAMPUS work load, \$1.4 million inpatient care (\$549 a day times 2,522 bed days) and \$2.8 million for outpatient care (\$67 times 41,161 visits). As a result, an additional \$7.3 million annual operating cost will be incurred if the new hospital is constructed and fully staffed.

Staffing. The economic analysis did not consider the effect that current staffing shortages would have on the operations of either the established or proposed hospital. Although the Nellis MTF was constructed to provide 65 operating beds, the MTF currently uses only 35 (53.8 percent) operating beds. According to hospital personnel, additional beds could be used if more staff were available. The GAO Report No. B-240715, "Defense Health Care-Potential for Savings by Treating CHAMPUS Patients in Military Hospitals," (OSD Case No. 84187) September 27, 1990, stated that Nellis hospital was below capacity primarily because of shortages in medical staff and ancillary staff.

Staffing shortages have been a problem at MTFs and according to testimony to Congress by the Surgeon General of the Navy, these shortages are most acute at newly constructed facilities. Congressional actions are being considered to limit the reductions in military medical billets during the upcoming force reductions. However, there are no assurances that the Nellis hospital will receive sufficient staffing to fill over 200 billets required to fully staff the proposed facility. Upon request, the Tactical Air Command could not provide evidence that additional staff was being budgeted to operate the new 129-bed hospital. If the proposed hospital cannot be fully staffed by 1994, the scheduled opening date for the new hospital, then the project is impractical.

Local community health care services. According to a December 29, 1982, memorandum from the ASD (HA) to the Military Departments on planning and acquisition of military health facilities, economic analyses were to be performed in accordance with DoD Instruction 7041.3 and reasonable alternatives, such as rehabilitation of existing facilities, CHAMPUS, and Medicare for providing health care to beneficiaries, were to be considered.

The October 1986 ASD (PA&E) review of the economic analysis stated that the Air Force had not considered sufficient alternatives to provide health care. In its October 1986 response, the Air Force disagreed with the ASD (PA&E), stating that a health maintenance organization had been considered but it was not a cost-effective alternative. Air Force personnel also

stated that they had looked into health care providers in Las Vegas, but found such alternatives to be costly. However, we were not provided any documentation to support the claim.

The economic analysis did not adequately consider obtaining health care services by negotiating with local community providers. Based on data provided by the State of Nevada Department of Human Resources, Division of Health Resources and Costs Review, it appears that there is significant excess capacity in Las Vegas civilian hospitals. This excess capacity also existed when the economic analysis was prepared. In calendar year 1990, of the 1,985 civilian hospital beds available, an average of 713 (35.9 percent) beds were not used.

The excess capacity in the Nellis area indicates that the Air Force could negotiate favorable rates with civilian facilities. The ASD (HA) recently introduced the Coordinated Care Program (CCP), which is designed to allow MTFs to take advantage of these opportunities. Under the CCP, the commanders of MTFs have the authority to obtain rates for health care services in the civilian community, compare the rates and services with the in-house capabilities, and determine the most cost-effective method of satisfying the health care need. An analysis of the CCP has not been made to determine the effect that the program could have on the Nellis catchment area.

#### Department of Veterans Affairs Review

During our audit, the planned allocation of 52 beds for the use of VA patients and projected savings was not adequately documented. An earlier version of the economic analysis stated that only three beds would be required to satisfy the VA needs. The joint venture economic analysis issued 8 months later projected a need for 52 beds without supporting documentation. The Air Force justification presented to the Subcommittees on Military Construction Appropriations for this project stated that providing the VA with 52 beds will result in an annual savings totaling \$7.1 million. Personnel at the ASD (HA), the Air Force, and the Las Vegas VA outpatient clinic could not explain or document how the savings were determined.

We requested that the Office of the Inspector General (IG), VA, review the VA economic analysis for this project. A draft working paper prepared by the IG, VA and provided to VA management for comment stated in part that:



. . . the original economic feasibility study was not supported at the time it was done and is not currently supported. Although the construction costs of the joint medical facility are favorable to the VA, we concluded that the project is not economically justified based on the current demonstrated demand for inpatient services for VA beneficiaries in the Las Vegas area.

In response to the draft working paper, VA management indicated that there is an expected increase in the need for hospital services due to a suppression of demand from a lack of a VA hospital in the area and an expected increase in veteran population. The IG, VA agreed to recognize these as influencing factors in the decision to construct a new hospital, but stated that the IG, VA was not provided sufficient information during the audit to demonstrate the existence of suppressed demand or the need for beds due to projected increases in population.

The IG, VA initial review of the VA economic analysis disclosed that the daily inpatient work load for the Las Vegas clinic was about 25 patients. Approximately 20 of these veterans were hospitalized in Southern California VA medical centers (VAMCs) and the remaining 5 were in non-VA facilities. A discussion with the Director of the Las Vegas VA Outpatient Clinic disclosed that many of the Las Vegas veterans would continue to receive care at Southern California VAMCs, because the proposed Nellis hospital will not provide long term care. According to the IG, VA draft working paper, the amount of transferable work load from Southern California would be negligible when compared to the facilities work load. It was further stated that the VA spent approximately \$2.5 million annually for contract inpatient care in non-VA facilities that will still be required. The IG, VA also estimated that it would cost from \$5 million to \$10 million annually to operate its portion of the proposed hospital.

After the issuance of the draft report, the VA provided the IG, VA a "White Paper" to justify the project based on a revised bed-sizing model. The IG, VA's review of this White Paper and supporting documentation disclosed that VA can fill the 52 beds allocated under the joint-venture agreement. Review of FY 1990 treatment records for veterans from the Las Vegas area in five VAMCs in nearby California and Arizona disclosed that 56 to 65 beds were used for acute care. Further, review of the bed-sizing model data for the year 2005 disclosed that VA's acute care needs will range from about 90 to 110 beds. Patients requiring non-acute bed care will still receive non-acute care in nearby California or Arizona VAMCs, because such care will not be provided at the Nellis hospital.

The White Paper concluded that there was a need for at least 52 beds, based on demographics and access to care problems for veterans in the Las Vegas area. The White Paper also identified annual operating costs of \$10.4 million for the new hospital and reduction in contractual care cost of about \$2.5 million, resulting in a net operating cost increase of \$7.9 million. The White Paper did not conclude that the proposed facility was economically justified. No information has been provided to alter the IG, VA's original conclusion that construction of the facility is not justifiable on the basis of economics.

### Upgrade of Nellis Medical Treatment Facility

Another alternative is to upgrade the existing Nellis MTF. We reviewed the maintenance, repair, and inspection records for the existing MTF and determined that no major repairs or flaws have been identified. The existing facility appears to be adequate and well maintained. For example, since 1982 the Air Force has spent about \$3.2 million for improvements at the MTF, including 3 needed fire and safety code improvements and other items such as new carpets and lawn sprinklers. Facility personnel identified 10 additional needed fire and safety code improvements; however, facility personnel estimate that it would cost only \$1.5 million to make the improvements. The Air Force has been aware of these needed improvements since 1982.

### Summary

A total reevaluation of this project should have been performed before requesting funds for construction and entering into a contract to construct the proposed Nellis hospital. According to the Army Corps of Engineers, a \$7.7 million penalty fee would have been incurred, as of December 1, 1991, if the contractor was directed to stop work on this project. Termination of the construction project could save about \$67.6 million (\$75.3 million funding less \$7.7 million contract penalty). In addition, DoD and VA would avoid \$15.2 million (\$7.3 million DoD and \$7.9 million VA) annually in net operating costs.

### Subsequent Actions

Before issuance of this final report, congressional actions were taken to limit the authority of the DoD to unilaterally terminate the construction project. The Conference Report on the FY 1992 Appropriations for Military Construction directed the Secretary of Defense to continue construction of the joint medical facility at Nellis AFB, and it directed that no action be taken to downsize the hospital. The Dire Emergency Supplemental

Appropriations Act (Public Law 102-229), signed by the President on December 12, 1991, stated that the Secretary of Defense shall continue the construction of the Nellis hospital. Although discrepancies remain in the projections for future use of the hospital, the Act leaves the DoD no choice but to proceed with the project.

Recent discussions with ASD (HA) personnel disclosed that they recognize the need to periodically revalidate the economic justification and sizing of medical construction projects. We were informed that DoD Instruction 6015.17 may be revised to require revalidation prior to 35 percent design completion, prior to 100 percent design completion, and prior to contract award.

We have modified this report by withdrawing our initial recommendations to suspend the project and to request congressional relief, and have substituted a recommendation to expedite the change to DoD Instruction 6015.17.

### Recommendation

We recommend that the Assistant Secretary of Defense (Health Affairs) expedite the proposed change to DoD Instruction 6015.17 requiring the revalidation of the requirements for medical construction projects.

### Management Comments

In the draft report we requested comments from the ASD (HA). We received comments from the ASD (HA), the Air Force, and the VA. All three responses provided nonconcurrences with the finding and initial recommendations to suspend construction of the project and request relief from congressional language requiring continuation of the project.

The ASD (HA) and the Air Force disagreed with our conclusion that the new hospital was economically unjustified, stating that the new hospital would save DoD \$2.8 million annually. It was also stated that our report understated the projected work load for the new hospital, CHAMPUS savings, beneficiary population, and costs to upgrade the existing MTF; while, overstating the costs to operate the new hospital. The ASD (HA) further stated that the Air Force would staff the new hospital so it would be fully operational. The full text of the ASD (HA) comments are contained in Enclosure 4 and the Air Force's comments are in Enclosure 6 of this report.

The VA disagreed with the IG, VA review, which concluded that the VA portion of the construction project was not economically justified based on current demand. The VA stated

that the projected demand will support from 150 to 200 beds, which exceeds the planned 52-bed capacity. The VA attributed this difference to inaccuracies in the economic analysis and suppressed demand for VA health care in the Las Vegas area. In addition, the VA stated that its share of operating costs (\$10.4 million) will exceed savings for local contracted health care services brought into the new hospital (\$2.5 million) by \$7.9 million. The full text of the VA's comments are contained in Enclosure 8.

#### Audit Response to Management Comments to Draft Report


The ASD (HA) and the Air Force's comments, when analyzed, do not justify continued construction of the new hospital. As stated in the report, we found major deficiencies in the DoD portion of the economic analysis that was used to justify the project. Since the receipt of comments on November 8, 1991, we have reviewed documentation and held discussions with ASD (HA) personnel and the Air Force concerning their respective comments. The information used in support of the management comments included some errors, was not supported by valid documentation, or was contradictory to the management comments. As a result, we have not changed our position that the planned hospital is economically unjustified and annual operating costs of the new hospital will exceed CHAMPUS savings by an estimated \$7.3 million for DoD. The details of our response to the ASD (HA) and the Air Force are contained in Enclosure 5 and Enclosure 7, respectively.

In coordination with the OIG, VA, we have evaluated the VA's comments and modified the report as appropriate to conclude that VA can fill the 52 beds allocated under the joint-venture agreement. However, no information has been provided to alter our original conclusion that construction of the facility is economically unjustified (see Enclosure 9).

#### Request for Comments on Final Report

We request that the ASD (HA) provide comments on the new recommendation in this report. As required by DoD Directive 7650.3, the comments must indicate concurrence or nonconcurrence in the finding and recommendation. If you concur, describe the corrective actions taken or planned, the completion dates for actions already taken, and the estimated dates for completion of planned actions. If you nonconcur, state your specific reasons for each nonconcurrence. If appropriate, you may propose alternative methods for accomplishing desired improvements. Comments are requested by March 30, 1992.

The courtesies extended to the audit staff are appreciated. If you have any questions on this audit, please contact Jack L. Armstrong, Project Manager, at 804-766-2703. The distribution of this report is listed in Enclosure 12.

  
Robert J. Lieberman  
Assistant Inspector General  
for Auditing

Enclosures

cc:

Secretary of the Army

Secretary of the Air Force

AVERAGE COST BY TYPE OF CARE

	<u>Inpatient</u> <u>(Per Bed Day)</u>	<u>Outpatient</u> <u>(Per Visit)</u>
Economic Analysis*:		
CHAMPUS	\$1,349	\$92
MTF (In-House)	( <u>591</u> )	( <u>65</u> )
Average Savings	\$ 758	\$27
Actual FY 1990:		
CHAMPUS	713	79
MTF (In-House)	( <u>549</u> )	( <u>67</u> )
Average Savings	\$164	\$12
Overestimated Savings	\$ <u>594</u>	\$ <u>15</u>

\* Projected 1991 costs based on 1983 data.

FISCAL YEAR 1990 CHAMPUS PAYMENTS BY CATEGORY OF CARE FOR THOSE CATEGORIES  
THAT NELLIS CURRENTLY PROVIDES AND PLANS TO CAPTURE

<u>Category of Care</u>	<u>Cost (\$000) and Work Load (N)</u>							
	<u>Services to Remain</u>				<u>Additional Services to be</u>		<u>Services Currently</u>	
	<u>with CHAMPUS</u>				<u>Provided at New Hospital</u>		<u>Provided at Nellis MTF</u>	
	<u>I/P</u>	<u>1/</u>	<u>O/P</u>	<u>2/</u>	<u>I/P</u>	<u>O/P</u>	<u>I/P</u>	<u>O/P</u>
<u>CHAMPUS:</u>								
Adverse Reactions	\$35		\$52					
	(36)		(596)					
Allergy					\$88	\$148		
					(178)	(5,890)		
Cardiology <sup>3/</sup>					1,815	488		
					(962)	(5,985)		
Dermatology							\$10	\$220
							(2)	(4,356)
Endocrinology	93		108					
	(116)		(1,773)					
Gastroenterology					228	347		
					(270)	(3,091)		
Hematology	180		100					
	(164)		(1,351)					
Infectious Disease	74		82					
	(80)		(1,527)					
Nephrology	71		29					
	(87)		(172)					
Neurology					333	307		
					(274)	(3,090)		
Nutritional							5	5
							(0)	(78)

Footnotes on last page of enclosure.

FISCAL YEAR 1990 CHAMPUS PAYMENTS BY CATEGORY OF CARE FOR THOSE CATEGORIES  
THAT NELLIS CURRENTLY PROVIDES AND PLANS TO CAPTURE

Category of Care	Cost (\$000) and Work Load (N)							
	Services to Remain with CHAMPUS				Additional Services to be Provided at New Hospital		Services Currently Provided at Nellis MTF	
	<u>I/P</u>	<u>I/</u>	<u>O/P</u>	<u>2/</u>	<u>I/P</u>	<u>O/P</u>	<u>I/P</u>	<u>O/P</u>
CHAMPUS: (cont'd)								
Pulmonary/ Respiratory					809 (720)	477 (8,027)		
Rheumatology	\$66 (61)		\$95 (2,412)					
Other	488 (718)		234 (3,501)					
Obstetrics							\$651 (440)	\$38 (9)
Gynecology							216 (178)	314 (2,288)
Ophthalmology					\$14 (3)	\$ 512 (3,969)		
Psychiatry	5,280 (11,539)		957 (13,926)		167 (365)			10 (275)
Pediatrics							221 (184)	158 (965)
Ear, Nose, and Throat					105 (30)	1,036 (12,070)		
General Surgery							1,076 (1,108)	657 (5,631)
Neuro-Surgery					221 (202)	105 (635)		

Footnotes on last page of enclosure.



FISCAL YEAR 1990 CHAMPUS PAYMENTS BY CATEGORY OF CARE FOR THOSE CATEGORIES  
THAT NELLIS CURRENTLY PROVIDES AND PLANS TO CAPTURE

Category of Care	Cost (\$000) and Work Load					
	Services to Remain with CHAMPUS		Additional Services to be Provided at New Hospital		Services Currently Provided at Nellis MTF	
	<u>1/P</u>	<u>1/</u> <u>O/P</u> <u>2/</u>	<u>1/P</u>	<u>O/P</u>	<u>1/P</u>	<u>O/P</u>
CHAMPUS: (cont'd)						
Orthopedics					372 (261)	714 (11,155)
Thoractic Surgery	107 (69)	95 (1,414)				
Urology			\$278 (192)	\$397 (2,926)		
Total CHAMPUS	\$6,394 (12,870)	\$1,752 (26,672)	\$4,058 (3,196)	\$3,817 (45,683)	\$2,551 (2,173)	\$2,116 (24,943)
Nellis Services <sup>4/</sup>					4,472 ( 8,141)	\$15,184 (226,248)
Total	\$6,394 <u>(12,870)</u>	\$1,752 <u>(26,672)</u>	\$4,058 <u>(3,196)</u>	\$3,817 <u>(45,683)</u>	\$7,023 <u>(10,314)</u>	\$17,300 <u>(251,191)</u>

<sup>1/</sup> 1/P = Inpatient, work load was reported in bed days.

<sup>2/</sup> O/P = Outpatient, work load was reported in number of visits.

<sup>3/</sup> According to the Nellis personnel, most cardiology will remain with CHAMPUS; however, we were unable to separate the charges that will be captured. As a result, the costs and work load were totally posted to services to be provided at the new hospital.

<sup>4/</sup> These figures do not include neonatal costs or bed days. Neonatal costs, bed days, and dental costs are not included in these figures.

CHANGES IN BENEFICIARY POPULATION

<u>Beneficiary Category</u>	<u>1983 Actual Population (Percent of Total Population) <sup>1/</sup></u>	<u>1991 Projected Population (Percent of Total Population) <sup>1/</sup></u>	<u>1991 Actual Population (Percent of Total Population) <sup>2/</sup></u>	<u>Difference Between 1991 Projected and Actual Population</u>	<u>Difference Between Projected and Actual 1991 Population (Percentage)</u>
Active Duty	10,742 (20.0)	12,031 (18.9)	6,150 (12.3)	(5,881)	-48.8
Active Duty Dependents	14,824 (28.9)	16,603 (26.0)	12,483 (25.0)	(4,120)	-24.8
Retirees <sup>3/ 4/</sup>	8,472 (16.5)	11,647 (18.3)	12,175 (24.4)	528	+ 4.5
Retiree <sup>3/</sup> Dependents	16,439 (32.1)	22,526 (35.4)	17,654 (35.3)	(4,872)	-21.6
Survivors <sup>3/</sup>	708 (1.3)	821 (1.2)	1,416 (2.8)	595	+72.4
Totals <sup>3/</sup>	<u>51,185</u>	<u>63,628</u>	<u>49,878</u>	<u>(13,750)</u>	

<sup>1/</sup> Data taken from the economic analysis.

<sup>2/</sup> Data provided by TAC.

<sup>3/</sup> Includes beneficiaries 65 years of age and older who are not eligible for CHAMPUS.

<sup>4/</sup> Both DoD and the VA included military retirees in their beneficiary populations.

MANAGEMENT COMMENTS: OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE



HEALTH AFFAIRS

THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, DC 20301-1200

NOV 8 1988

MEMORANDUM FOR THE INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

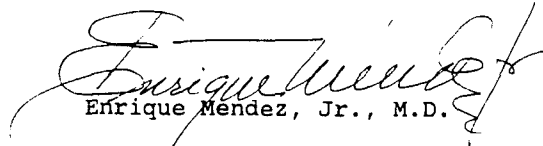
SUBJECT: Draft Quick Reaction Report on Construction of the  
Nellis Air Force Base, Nevada, Hospital (Project No.  
IFC-0026.01)

I have conducted a detailed evaluation of the findings in the subject draft report, and I do not concur with the recommendations to stop construction of the new hospital at Nellis Air Force Base. Although the report concluded that there were inaccuracies in the 1984 economic analysis process, a revalidation of the project by my office continues to support the justification for the project. My detailed comments on the report's findings are attached.

A critical factor in our decision to build a new facility is the need to fully utilize the Department's direct care base, the Medical Treatment Facility (MTF), by recapturing, to the extent appropriate, work load being handled under CHAMPUS. I recognize, as noted in the report, that our ability to fully utilize the MTFs is dependent upon the appropriate staffing of the facility. With regard to the Nellis project, the Air Force made the commitment to fully staff the new facility at the time the economic analysis was completed and again during our recent revalidation.

As your office proceeds with further evaluations of military medical facilities, I extend an invitation to work closely with my office to fully understand the justification for military health care facilities. Such an understanding of the philosophy and practice of health care in the Military Health Services System will contribute to a more accurate comprehension of our decisions regarding military construction projects in the future.

I appreciate the opportunity to review and comment on the draft report. If you have any questions concerning my response, my point of contact is Mr. Ronald Maccaroni, Deputy Director, Defense Medical Support Activity, who may be reached at (703) 756-8770.

  
Enrique Mendez, Jr., M.D.

Attachment:  
As Stated

MANAGEMENT COMMENTS: OFFICE OF THE ASSISTANT SECRETARY OF  
DEFENSE (Cont'd)

DOD IG DRAFT QUICK REACTION REPORT ON CONSTRUCTION OF THE  
NELLIS AIR FORCE BASE, NEVADA, HOSPITAL (PROJECT NO. 1FC-0026.01)

The following is provided in response to the subject draft report. While the report noted several inaccuracies concerning the 1984 Economic Analysis process, a revalidation of the health care requirements for the area supported a cost-effective construction solution to meet the health care needs.

SUBJECT: Introduction, Page 1.

Issue: On June 21, 1991, a \$54.8 million contract was awarded to begin construction of the hospital. Congress appropriated construction funds of \$10.0 million in FY 90 and \$65.3 million in FY 91 to fund the construction project. Of the total \$75.3 million appropriated, \$66.0 million was provided to Department of Defense (DoD) and \$9.3 million was provided to Department of Veterans Affairs (VA). The existing Medical Treatment Facility (MTF), with a capacity of 65 beds, has an average daily occupancy of only 23 beds. Prompt action to terminate the construction contract could save \$70.5 million. Additionally, estimated annual operating costs of \$9.8 million could be avoided through project termination. With a planned operational date of August 1994, this equates to a \$29.4 million cost avoidance (\$21.9 million DoD and \$7.5 million VA) during FYs 95 through 97.

Response: Nonconcur. The actual total funding for the project is \$68.4 million, not \$75.3 million programmed. Of the 68.4 million, DoD's share is \$59.9 million (not \$66.0 million) and the VA's share is \$8.45 million (not \$9.3 million).

Savings resulting from termination would not be \$70.5 million since the total cost is not \$75.3 million. If the project were terminated, the correct savings would be \$40.3 million--\$59.9 million (correct DoD cost) minus \$7.8 million termination cost (as of 1 December 1991) and approximately \$11.8 million for the design of a Life Safety and utility upgrade to the existing facility. The additional operating costs were also overstated. The FY 90 operating cost of the existing facility was \$20.8 million (including staffing, maintenance, supplies, etc.). This cost was projected to the new project as approximately \$28.0 million. The CHAMPUS cost difference between the new project and the existing facility is \$10.0 million. This provides an annual savings of approximately \$2.8 million when the operating costs of the new facility are offset with the CHAMPUS cost savings (\$28.0 million operation cost of new facility minus operations cost of existing facility of \$20.8 million minus the CHAMPUS cost savings of \$10.0 million). Finally, the operating cost avoidance projected by the DoD IG is erroneous since it assumes no DoD medical operations at Nellis and failed to consider life cycle costs for the project.

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SUBJECT: Background, Page 2.

Issue: During the audit, it was noted there were 49,878 beneficiaries in the Nellis catchment area (a geographic area within a 40-mile radius of an MTF). The DoD IG estimated that the new hospital would handle work load of an additional 7 beds and 41,161 visits now handled through CHAMPUS. The DoD IG reported that during FY 90, the MTF had 226,248 outpatient visits and an average monthly patient load ranging from 17 to 26 beds daily in the 65-bed capacity facility.

Response: Nonconcur. The total number of beneficiaries to be served in the area remains at approximately 56,000, of which nearly half are active duty members and their dependents. Our review of Defense Medical Information System (DMIS) data showed that the current MTF had an average daily inpatient load of 27 beds and had a total of 227,023 outpatient visits.

The 65-bed capacity was the original constructed size, but 12 bed spaces have been renovated for clinic functions. Presently, the Nellis facility is listed as a 35 operating bed facility because it lacks sufficient ancillary support space to increase the operating bed capacity.

SUBJECT: Discussion, Pages 3-6.

Issue: Economic Analysis. The Air Force prepared a flawed Economic Analysis for the proposed Nellis AFB project on October 31, 1984. The Assistant Secretary of Defense for Program Analysis and Evaluation (ASD(PA&E)) reviewed the Air Force economic analysis in October 1986. That review showed that the projected cost savings from replacing the Nellis facility were overestimated. The Air Force did not concur with the ASD(PA&E) review and claimed that the ASD(PA&E) misunderstood the economic analysis. Although 6 years transpired since completion of the economic analysis and more current data were readily available, the Assistant Secretary of Defense (Health Affairs) (ASD(HA)) instructed the Army Corps of Engineers to award the construction contract without revalidating the analysis. A revalidation to reflect current conditions would have shown that the methodology was unrealistic and FY 1991 projected savings, CHAMPUS costs, and patient work load (beneficiary population and inpatient care) in the 1984 economic analysis were underestimated.

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Response: Partially Concur.

While it is correct that the ASD(PA&E) review showed savings identified in the 1984 economic analysis were overstated, that position was based on a disagreement with the Air Force's methodology (discount rate, etc.) used in determining the project's savings. The ASD(PA&E) did not take the position that a new facility was not needed for Nellis as it did with other facilities in the subject review.

We agree that revalidation of size and scope is necessary and in fact several revalidation studies for the Nellis facility have been done. A 1985 Air Force revalidation reduced the size of the facility from 91 beds as called for in the 1984 economic analysis to 83 beds. A 1988 OASD(HA) revalidation further reduced the number of beds to 77, as included in the current construction contract. Recent revalidation conducted by the OASD(HA) shows that a minimum of 55 beds is required to fully utilize our direct care base by recapturing CHAMPUS work load which could be provided in the new facility. The 22 bed difference is mainly related to mental health care not typically provided in an MTF but which could be provided in the facility under contract requirements.

The DoD IG's comments on the economic analysis methodology, savings, costs, and work load are addressed in the following sections. Staffing projections in the economic analysis were based on the Air Force's commitment at that time to fully staff the new MTF to meet requirements and were reconfirmed during our recent revalidation.

Issue: Methodology. The methodology used in the economic analysis was unrealistic. The projected savings (\$26.8 million) was based on a comparison of the cost of operating the new hospital (\$31.2 million) with the cost of having no MTF at Nellis, with all health care provided through civilian providers (\$58.0 million). This was not a realistic alternative because an operating MTF was already in place at Nellis AFB and this MTF would continue to provide care to active duty military personnel and their dependents.

Response: Nonconcur. The DoD IG's position on the economic analysis methodology seems to derive from a misunderstanding of the methodology and how its results are used in the decision-making process. The \$26.8 million savings alternative that the DoD IG focused on was only one of three alternatives considered. Further, the \$26.8 million savings represented the best economic alternative for meeting the total

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health care requirement in the Nellis catchment area. This data is then combined with construction and life cycle costs associated with the different alternatives to determine the most cost-effective solution for meeting the requirement.

Issue: Overestimated Cost Differential. The economic analysis overestimated the cost differential associated with CHAMPUS and MTF patient care costs. The economic analysis projected that average cost per bed day (inpatient day) and outpatient visit under CHAMPUS in 1991 would be \$1,349 and \$92, respectively. A revalidation of the CHAMPUS costs would have shown actual average 1990 costs per inpatient day and outpatient visit to be \$713 and \$79, respectively. Estimated MTF inpatient day costs were also overestimated. A revalidation of these costs would have shown that the cost differentials in the economic analysis were overestimated by an average of \$594 per inpatient day and \$15 per outpatient visit. As a result, the economic analysis overestimated annual savings in CHAMPUS costs by \$19.4 million, \$15.8 million for inpatient care (\$594 times 26,600 bed days annually) and \$3.6 million for outpatient care (\$15 times 238,372 visits).

Response: Nonconcur. The DoD IG used an incorrect methodology in computing the CHAMPUS costs per inpatient day for the work load that would be recaptured in the new facility. The DoD IG added the 1990 medical/surgical cost of \$1195 to the mental health cost of \$458 to arrive at an average cost of \$713. Only the medical/surgical costs were used in the economic analysis because that was the only CHAMPUS work load that was planned to be recaptured. In 1984, these costs were projected to be \$1,349 in 1991. They were actually \$1,305 in 1991.

There were no significant differences between the DoD IG's CHAMPUS outpatient cost and the economic analysis projected costs.

Issue: Existing MTF Work Load. Projected savings in the economic analysis wrongly included as a cost avoidance work load already being performed at the Nellis MTF in support of CHAMPUS eligible patients. Savings would result only if additive work load were transferred to the MTF from CHAMPUS funded providers. In FY 1990, Nellis had a bed occupancy of 8,141 bed days (about 23 beds daily) and 226,248 outpatient visits. The net difference between in-house and CHAMPUS costs was \$164 a bed day and \$12 for an outpatient visit. As a result, the economic analysis further overestimated savings in CHAMPUS costs by \$4.0 million, \$1.3 million for inpatient care (\$164 times 8,141 bed days) and \$2.7 million for outpatient care (\$12 times 226,248 visits).

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Response: Nonconcur. The DoD IG's computed difference between in-house and CHAMPUS cost per bed day of \$164 is incorrect because it is based on an average of medical/surgical and mental health CHAMPUS cost of \$713 discussed above, and an incorrect in-house cost of \$549, which should be \$528. There are significant differences between the DoD IG inpatient cost data and our inpatient cost data. Our review of FY 90 DMIS data showed the MTF work load was 8,248 bed days and 227,023 clinic visits.

Issue: Overestimated Inpatient Work Load. The economic analysis stated that the inpatient work load would increase to 26,600 bed days annually based on 75-percent recovery of care historically provided outside the Nellis MTF. For FY 1990 the Nellis MTF reported an occupancy of 8,141 bed days (23 beds daily). Historically, the Nellis MTF provided 78.9 percent of the bed days used for the types of services offered by both the Nellis MTF and CHAMPUS. Using the 78.9 percent factor, we estimated that the Nellis MTF could attract an additional 2,522 bed days annually (7 beds daily) from CHAMPUS providers. As a result, the daily requirements for beds could increase from the current annual average of 23 beds per day to 30 beds (10,663 bed days annually). Therefore, the economic analysis overestimated the bed days by 15,937 days (26,600 less 10,663) and the savings by \$2.6 million (15,937 bed days times \$164).

Response: Nonconcur. The DoD IG assumes there are only 3,196 CHAMPUS bed days eligible for recapture while, based on 1990 DMIS data, there are 6,823 medical/surgical bed days eligible for recapture. Applying the 78.9 percent recapture rate used by the DoD IG to 6,823 results in an additional 5,583 bed days that could be recaptured to the new MTF. That converts to a 15-bed requirement. In addition, if we assume a conservative recapture rate of 50 percent of the bed days being referred outside the catchment area, an additional 2,260 bed days could be recaptured. That converts to six additional beds. Therefore, the average daily inpatient load would be 48 (27 current plus 21 additional), not 30 as reported by the DoD IG. Bed sizing will add an additional 20 percent to allow for patient mix flexibility.

Issue: Additional Outpatient Work Load. The Nellis MTF provided 90.1 percent of the patient work load when the same type of services were provided by both the MTF and CHAMPUS. Of the 45,683 CHAMPUS outpatient visits associated with the new services to be offered, the new hospital can expect to attract an estimated 41,161 (90.1 percent) visits. There could be an additional \$0.3 million in savings (\$12 times 267,409 visits less 238,372 visits projected in the economic analysis) not reflected in the economic analysis.



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Responses: Partially Concur. According to DMIS, the FY 90 outpatient visits were 227,023, not 226,248 as reported by the DoD IG. While we do not understand how the DoD IG computed the additional outpatient visits that could be recaptured, their estimate is comparable to ours and reflects consistent trends throughout DoD of increases in outpatient work load.

SUBJECT: Other Factors, Pages 6-8.

Issue: Beneficiary Population. Enclosure 3 shows that actual FY 1991 beneficiary population was 13,750 less than the projected FY 1991 population figure of 63,628.... An additional 31,245 retirees, retirees' dependents, and survivors comprise 62.6 percent of the beneficiary population. This group is the only growing segment of the population; however, it is growing at a rate of only 2.7 percent annually, not 4.0 percent as predicted in the Air Force 1984 economic analysis. The economic analysis did not consider the potential double counting of work load.

Response: Nonconcur.

As shown below, the population figures used by the DoD IG are not correct.

	<u>FY91 EA</u>	<u>FY91 IG</u>	<u>FY90 DEERS</u>	<u>FY94 PROJ. DMIS</u>
Active Duty	12,031	6,150	8,692	6,490
AD Dependent	16,603	12,483	17,978	14,732
Retired	11,647	12,175	12,162	15,239
Ret Dependent	22,526	17,654	15,093	18,911
Sur, Guard, Others	<u>821</u>	<u>1,416</u>	<u>2,113</u>	<u>1,776</u>
Total	63,628	49,878	56,038	57,148

Further, DMIS data indicates the retiree population is growing at a rate of 5.8 percent a year rather than 2.7 percent a year reported by the DoD IG.

While there may have been some double counting of retirees in the Nellis and VA population estimates, the number of beds the VA has targeted in the facility, according to VA figures, is significantly below what the VA population can justify.

Issue: Operating costs. The 1984 analysis showed that the projected operating cost for the new hospital would be \$31.2 million annually for those types of medical services to be performed at the new hospital. Based on our analysis of FY 1990 operating costs and projected staffing and operational

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requirements for the new hospital, the \$31.2 million annual operating costs appear reasonable. As shown above, existing operating cost will increase by \$11.5 million annually because of additional staffing and operational requirements. Of the \$11.5 million increase, only \$4.2 million will be offset by attracting CHAMPUS work load, \$1.4 million inpatient care (\$549 a day times 2,522 bed days) and \$2.8 million for outpatient care (\$67 times 41,161 visits). As a result, an additional \$7.3 million annual operating cost will be incurred if the new hospital is constructed and fully staffed.

Response: Nonconcur.

The \$31.7 million operating cost used by the DoD IG in its computations is for the 91-bed facility included in the economic analysis. Projecting FY 90 operation costs of \$20.8 million for the existing facility to the currently designed project is \$28.0 million. The increased operating cost is offset by \$10.0 million additional CHAMPUS costs. As a result, an annual \$2.8 million operating cost savings will be realized when the new hospital is constructed and fully staffed.

Issue: Staffing. The economic analysis did not consider the effect that current staffing shortages would have on the operations of either the established or proposed hospital. The Nellis MTF uses only 40 (62.0 percent) operating beds out of the total 65 beds in the facility. According to hospital personnel, additional beds could be used if more staff were available. The GAO report No. B-240715, "Defense Health Care-Potential for Savings by Treating CHAMPUS Patients in Military Hospitals," (OSD Case No. 84187) September 27, 1990, stated that Nellis hospital was below capacity primarily because of shortages in medical staff and ancillary staff.

Response: Nonconcur. When the economic analysis was prepared, the Air Force had officially stated that the facility would be staffed at the level required to support the planned bed size. During our recent revalidation process, the Air Force again committed to fully staff the new facility.

Issue: Local Community Health Care Services. The October 1986 ASD(PA&E) review of the economic analysis stated that the Air Force had not considered sufficient alternatives to provide health care...it appears that there is significant excess capacity in Las Vegas civilian hospitals. This excess capacity also existed when the economic analysis was prepared. In calendar year 1990, of the 1,985 civilian hospital beds available, an

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average of 713 (35.9 percent) beds were not used. The excess capacity in the Nellis area indicates that the Air Force could negotiate favorable rates with civilian facilities.

Response: Partially Concur. While the economic analysis did not sufficiently address local community alternatives for providing health care, such action is a critical element of OASD(HA)'s Coordinated Care Program. Therefore, such considerations are a part of our current revalidation. However, it should be noted that recent Nevada data on FY 91 occupancy rates indicates the closest private facilities to Nellis had occupancy rates in excess of 70 percent. Experience has shown that such high occupancy rates make low-price negotiations difficult.

Issue: Department of Veterans Affairs Review. The planned allocation of 52 beds for the use of VA patients and projected savings has not been adequately documented.

Response: On 4 November 1991, Secretary Derwinski advised Secretary Cheney that, in response to the DoD IG's report, the VA had revalidated the need for 52 beds and found that work load projections indicated a need for approximately three-to-four times as many beds. Therefore, VA stands by its 52-bed requirement. The VA's detailed justification is at Attachment 1 of this response.

Issue: Upgrade of Nellis Medical Treatment Facility. Another alternative is to upgrade the existing Nellis MTF. We reviewed the maintenance, repair, and inspection records for the existing MTF and determined that no major repairs or flaws have been identified. The existing facility appears to be adequate and well maintained. For example, since 1982 the Air Force has spent about \$3.2 million for improvements at the MTF, including 3 needed fire and safety code improvements and other such items such as new carpets and lawn sprinklers. Facility personnel identified 10 additional needed fire and safety code improvements; however, facility personnel estimate that it will cost only \$1.5 million to make the improvements. The Air Force has been aware of these needed improvements since 1982.

Response: Nonconcur. The \$1.5 million cost to make needed fire and safety improvements reported by the DoD IG is incorrect. Our latest estimate is that the life safety and utility upgrade improvements will cost up to \$11.8 million. This estimate is based on two other similar Military Construction projects which have similar deficiencies. The major deficiencies

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noted include lack of smoke compartments, corridor walls do not extend to slab above, building not sprinklered throughout, dead end corridors, lack of seismic zone 2 bracing of walls and utilities, insufficient electrical capacity, aluminum versus copper conductors used throughout, deficient transformers, deficient emergency power, substandard air distribution system, medical gas system is substandard, energy consumption exceeds energy budget by 64 percent and removal of asbestos from mechanical equipment. It should be noted that even with the upgrades, the current facility will not have the functional capabilities to increase inpatient or outpatient care. Therefore, the Department would not be able to improve productivity in order to recapture the more expensive CHAMPUS work load.

SUBJECT: Summary, Page 10.

Issue: Termination of the construction project could save \$70.5 million (\$75.3 million funding less \$4.8 million contract penalty). In addition, DoD and VA will avoid \$9.8 million (\$7.3 million DoD and \$2.5 million VA) annually in operating costs. It is imperative that immediate action be taken to terminate construction because penalty fees could increase to \$7.7 million by December 1991.

Response: Nonconcur. The savings reported by the DoD IG by terminating construction is incorrect. As discussed above, the total project funding is \$68.4 million, not \$75.3 million reported by the DoD IG. Further, the penalty cost to terminate would be \$7.8 million, not \$4.8 million reported by the DoD IG. Life Safety utility upgrades will cost \$11.8 million, not \$1.5 million as reported by the DoD IG. Further, also as discussed above, the additional operating cost is incorrect since the base operating cost used by the DoD IG in its computations is based on a 91-bed facility, not on a smaller facility as now planned.

SUBJECT: Recommendations, Page 10.

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Issue: We recommended that the Assistant Secretary of Defense (Health Affairs):

1. Direct the Commander, Army Corps of Engineers to immediately suspend construction of the Nellis hospital as an interim action toward contract termination, until Congress has had an opportunity to evaluate the facts presented in this audit report.

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2. Notify Congress of the suspension and DoD's intent to terminate the construction contract; and request relief from the congressional language requiring continuation of the construction project.

Response: Nonconcur. A detailed examination of the audit findings and a reevaluation of the project shows a new project is justified.

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HEALTH AFFAIRS

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON D C 20301

NOV 8 1991

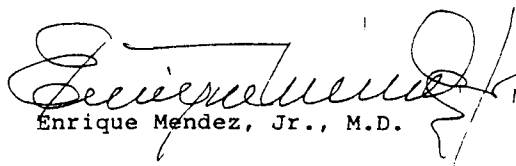
MEMORANDUM FOR SECRETARY OF THE AIR FORCE

SUBJECT: Staffing of the Nellis Air Force Base Hospital Replacement

As you are aware, the Department of Defense Inspector General (DoD IG) has questioned the need for a replacement project at Nellis Air Force Base, Nevada. Although the report concluded that there were several inaccuracies in the 1984 economic analysis process, a revalidation of the project by my office continues to support the justification for the project. Therefore, I have nonconcurred in the DoD IG's recommendation to terminate the new hospital now under construction.

A key factor in the DoD IG's report was concern about the commitment of the Air Force to fully staff the new facility. Based on documentation provided to the Defense Medical Facilities Office by the Air Force, I have reaffirmed the commitment of medical personnel to ensure a fully operational facility. A copy of my response to the DoD IG draft report is attached.

My point of contact for this matter is Mr. Ronald Maccaroni, Deputy Director, Defense Medical Support Activity, who may be reached at (703) 697-8973.

  
Enrique Mendez, Jr., M.D.

Attachment:  
As Stated

**AUDIT RESPONSE TO ASSISTANT  
SECRETARY OF DEFENSE (HEALTH AFFAIRS) COMMENTS**

**Reference: Introduction, Page 1**

The ASD (HA) stated that actual total funding for the project is \$68.4 million, not \$75.3 million. Therefore, the potential savings in the report are overstated.

We do not agree. As stated in our report, a total of \$75.3 million was appropriated by Congress. Obligations to date may be \$68.4 million; however, the difference of \$6.9 million is still available for any unanticipated expenditures, such as cost overruns on the project.

**Reference: Background, Page 2**

The ASD (HA) stated that the total number of beneficiaries to be served was approximately 56,000 and not 49,878. Additionally, the ASD (HA) stated that there were 227,023 annual outpatient visits and not 226,248. Further, the inpatient work load was 27 beds and not 23.

Our report was modified to show that the 49,878 figure was obtained from the Office of the Surgeon General, Tactical Air Command (TAC). This figure reflects realignment of units associated with the FY 1991 Base Realignment and Closure (BRAC). The ASD (HA) figure was derived from the Defense Eligibility Enrollment Reporting System (DEERS), which was not adjusted for the realignment of units. Further, the DEERS may not provide management with accurate data for Nellis. For instance, in FY 1989 the DEERS data for Nellis showed an increase of 737 active duty and 6,622 active duty dependents, which equates to a 1 to 9 ratio between these beneficiary categories. This ratio appears to be unrealistic. We did not audit the DEERS data, but noted that data provided by the DoD Defense Manpower Data Center showed an overall ratio of active duty to active duty dependents for Nellis of 1 to 1.53, as of September 30, 1991.

The 775 difference between the 227,023 annual outpatient visits cited by the ASD (HA) and the 226,248 figure in our report is attributed to the ASD (HA), which includes his figure for visits inpatients made to outpatient clinics. We excluded these outpatient visits to avoid double counting of work load.

We disagree with the ASD's (HA) statement that the Nellis MTF had an average daily inpatient work load of 27 beds. As shown in our audit report, in FY 1991, the monthly average inpatient load was 23 beds per day. Based on a discussion with

ASD (HA) personnel, the 27 bed figure was derived by adding the average number of occupied bassinets (neonatal beds) to the operating beds figure. The number of occupied bassinets is not used in the computation and justification for a 129-bed hospital. Further, analysis of the most current Defense Medical Information System (DMIS) summary data showed that for the 12-month period ended July 31, 1991, the average bed occupancy had decreased to 17 beds per day. The Air Force bed occupancy goal is 80 percent while over the last 12 months Nellis has reported an occupancy rate of only 42.5 percent based on 40 operating beds. Further discussion with ASD (HA) personnel confirmed that there is sufficient staffing at Nellis to support only 35 operating beds.

**Reference: Economic Analysis, Page 3**

The ASD (HA) agreed that revalidation of size and scope of the planned hospital was necessary and indicated that several revalidation studies have been done, which support construction of a new hospital.

Our report emphasized the 1984 economic analysis because it was the most comprehensive of the studies performed and was used to justify this project to Congress. The ASD (HA) comments show that each revalidation of the project has resulted in a decrease in the operating bed requirement at Nellis. The most recent revalidation shows a need for only 55 operating beds, down from an original requirement of 91 operating beds. We believe that further revalidation would show that the 35 operating beds being staffed at Nellis would satisfy future requirements.

**Reference: Methodology, Page 3**

The ASD (HA) stated that the IG, DoD focused on only one of three alternatives considered. The ASD (HA) also stated that the IG, DoD did not understand the decisionmaking process because the Air Force's economic analysis data were combined with construction and life cycle costs to determine the most cost-effective solution for meeting the requirement.

We focused on the one alternative used to justify construction of the new hospital versus the status quo and addition or alteration alternatives that the Air Force did not act on. We agree that some further analysis was performed. However, such analysis was also flawed. For instance, to justify the construction of the project, the Air Force used a discount rate of 4 percent instead of the DoD directed rate of 10 percent. If the 10-percent rate was used, the analysis would have shown that the hospital construction alternative was uneconomical.



**Reference: Overestimated Cost Differential, Page 4**

The ASD (HA) stated that the IG, DoD used an incorrect methodology to determine CHAMPUS costs because mental health costs were not included in the 1984 economic analysis. The ASD (HA) also stated that the IG, DoD added the 1990 medical/surgical cost of \$1,195 to the mental health cost of \$458 to arrive at an average cost of \$713.

These statements are incorrect. If we had used the computation method suggested by the ASD (HA) we would have derived an average CHAMPUS cost of \$826 per day. Instead, we used a weighted average to derive the \$713 daily cost. Further, mental health care costs were included in our computation because the 1984 economic analysis included 601 bed days for psychiatric care. Further, the VA indicated that the department plans to operate 14 mental health beds for Air Force beneficiaries and the ASD's (HA) comments indicate that the Air Force is considering using 22 beds for mental health care.

**Reference: Existing MTF Work Load, Page 5**

The ASD (HA) stated that an incorrect in-house figure of \$549 was computed by the IG, DoD based on 8,141 bed days. The ASD (HA) stated that the correct figure is \$528 based on 8,248 bed days.

We disagree. The \$21 difference represents neonatal care, which we excluded from our analysis because the 1984 economic analysis did not include neonatal care in deriving bed requirements. Based on our discussion with ASD (HA) personnel, there is now agreement on the 8,141 bed days and computed \$549 figure.

**Reference: Overestimated Inpatient Work Load, Page 5**

The ASD (HA) questioned our use of 3,196 bed days as being eligible for recapture from CHAMPUS and stated that, based on 1990 DMIS data, there are 6,823 medical/surgical bed days eligible for recapture. The 6,823 bed days, if recaptured, convert to a 15-bed requirement. Further, if 50 percent of the bed days being referred outside the catchment area are recaptured, this converts to an additional six-bed requirement.

The 6,823 bed days figure cannot be used because it includes categories of care that will not be provided at the planned Nellis hospital. The Nellis MTF was unable to provide supportable data to indicate which patients, currently referred to other DoD hospitals outside the catchment area, would be held and treated by the new hospital. To hold a previously referred patient, you must provide the necessary medical care in the new

hospital. Data to show the medical care that was not available for the referred patients were not available; therefore, we could not identify a supportable basis to include this work load in our analysis. If we accept the six-bed requirement, the additional beds are not enough work load to support the need for a new hospital.

**Reference: Beneficiary Population, Page 6**

The ASD (HA) stated that the beneficiary figures used by the IG, DoD are incorrect.

We disagree. As stated earlier in our response, the DEERS data used by the ASD (HA) do not reflect the most recent changes in the Nellis beneficiary population associated with BRAC. Discussion with ASD (HA) personnel disclosed that the 5.8 percent annual rate of growth figure cited by the ASD (HA) for the Nellis retiree population was based on FY 1988 through FY 1990 data. We cannot comment on the accuracy of the 5.8 percent figure, because, as stated in the VA comments, "veteran population data from the 1990 Census will not be available until next year (mid 1992) . . . ." The 2.7 percent annual growth rate for the retiree population shown in our report was based on FY's 1983 through 1991. The FY 1983 retiree population was derived from the 1984 economic analysis and the 1991 figure was based on data provided by the Air Force TAC Surgeon General.

**Reference: Operating Costs, Page 6**

The ASD (HA) stated that the \$31.2 million operating costs used by the IG, DoD is the figure used in the economic analysis for a 91-bed facility. Based on FY 1990 operating costs of \$20.8 million for the current facility, the operating cost for the designed project is \$28.0 million, which will be offset by \$10.0 million in recaptured CHAMPUS costs. As a result, an annual \$2.8 million operating cost savings will be realized.

We agree that the \$31.2 million figure is used in the economic analysis for a 91-bed facility. However, the \$31.2 million figure is also a reasonable cost for the Air Force portion of the new hospital--77 beds. We disagree with the \$28.0 million figure provided by the ASD (HA). The actual FY 1990 operating cost of the MTF was \$26.5 million. Of the \$26.5 million, \$16.1 million (61 percent) was spent for personnel. The staffing for the new hospital will require a 52-percent increase in personnel, which we estimated would cost approximately \$8.4 million annually. Of the \$26.5 million, \$8.1 million (30.6 percent) was spent for supplies, maintenance, equipment, and contracts that will probably increase in direct relation to the increased work load or size of the new hospital.

We estimate that the cost for these items will increase by \$3.8 million, or 47 percent. As a result, the total cost increase could exceed \$12.2 million, which is close to the \$11.5 million figure used in our report.

We also disagree with the ASD (HA) statement that the increased operating cost would be offset by \$10.0 million in CHAMPUS cost savings. As previously discussed, the \$10.0 million in CHAMPUS cost savings is not realistic because the planned hospital will not provide the necessary categories of health care.

ASD (HA) personnel provided us documents to support the FY 1990 operating costs of \$20.8 million and projected estimate of \$28.0 million. The \$20.8 million figure was a budget figure, which did not match the actual Nellis MTF budget or staffing levels. One document showed \$26.9 million of projected FY 1994 costs for operating the current MTF and \$43.0 million for operating the new hospital. This document also showed that CHAMPUS costs would be reduced by \$15.5 million, while hospital operating costs would increase by \$16.1 million, or a net DoD annual operating loss of \$600,000.

**Reference: Staffing, Page 7**

The ASD (HA) stated that the Air Force has made a commitment to fully staff the new facility.

As stated in our report, the Nellis hospital has had an ongoing problem with staffing and could operate more beds if more staff were available. Since the Air Force has not provided sufficient staffing to fully use the current facility, we question whether the Air Force can commit to fully staffing the new facility since funding for the additional staffing in FY 1994 was not programmed for the Nellis MTF budget.

**Reference: Local Community Health Care Services, Page 7**

The ASD (HA) agreed that negotiations with local civilian health care services are critical to the success of the Coordinated Care Program. Such considerations are part of their current revalidation. However, the ASD (HA) stated that the closest private health care facility to Nellis had a 70-percent occupancy rate in FY 1991, therefore low-price negotiations would be difficult.

We fully support the current revalidation of requirements provided there is an attempt to seriously negotiate local community alternatives. During the audit we contacted the State of Nevada Department of Human Resources, Division of Health

Resources and Cost Review to determine the occupancy of the eight civilian health care facilities within the Nellis hospital catchment area. As stated in the report, during calendar year 1990, these facilities had a daily average of 713 unoccupied beds or an occupancy rate of 64.1 percent. A detailed review of the occupancy data showed that during 1990 the average daily occupancy rate for four of the eight civilian health care facilities in the Nellis catchment area was below 50 percent. Therefore, it appears there is ample opportunity to negotiate favorable health care rates in the Nellis area.

**Reference: Upgrade of Nellis Medical Treatment Facility, Page 10**

The ASD (HA) stated that the IG, DoD \$1.5 million cost figure is incorrect. Life safety and utility upgrade improvements will cost up to \$11.5 million.

We determined that the basis for the \$11.5 million estimate is the cost to correct deficiencies at other facilities. Although requested, the ASD (HA) personnel could not provide a detailed engineering analysis of deficiencies and cost estimate for each deficiency at the Nellis MTF. No on-site visit was performed to assess the need for correcting any deficiencies. We believe the \$1.5 million estimate we cited in the report is more accurate and supportable because it is based on an actual review of the Nellis MTF; the 1982 Spink study mentioned in the 1984 economic analysis. The 1984 economic analysis discussed fire and safety code compliance and referred to the 1982 Spink study estimated cost of \$750,000 to put the Nellis MTF in compliance with existing codes. The economic analysis increased this cost to \$1.0 million in 1984 to adjust for inflation. At our request, the resident Nellis MTF architect involved in the construction of the new hospital reviewed the deficiencies in the Spink study and estimated that at today's prices it would cost about \$1.5 million to correct the fire and safety code violations that had not been corrected. These same deficiencies identified in the Spink study were also addressed in a 1988 Joint Commission on Accreditation of Hospitals report on the Nellis MTF.

MANAGEMENT COMMENTS: DEPARTMENT OF THE AIR FORCE



OFFICE OF THE ASSISTANT SECRETARY

DEPARTMENT OF THE AIR FORCE  
WASHINGTON DC 20330-1000

8 NOV 1991

MEMORANDUM FOR INSPECTOR GENERAL DEPARTMENT OF DEFENSE

SUBJECT: Draft Quick-Reaction Report on Construction of Nellis AFB, Nevada,  
Hospital (Your Memo, 24 Oct 91) - ACTION MEMORANDUM

Thank you for an opportunity to respond to your draft report on the Nellis hospital construction project. After careful analysis of your report and available information, we conclude the Nellis hospital project will permit the most economical delivery of health care in the Nellis AFB area and should not be terminated or downsized.

A long period of time between planning and start of construction presents a potential for inappropriate sizing of any medical facility. However, the FY90 projections in population, CHAMPUS costs, and workload used in the economic analysis to size the Nellis hospital are close to the actual figures for FY90. More importantly, the methodology to which the FY90 projections were applied in the economic analysis was valid. This methodology was and still is required in Section 1087 of Title 10 for medical construction projects. The hospital project remains the most cost-effective facility solution to health care delivery in the Nellis AFB area, and termination or downsizing would be a serious mistake.

Comments with supporting data and document sources addressing specific portions of your report are provided in the attachment. I appreciate this opportunity to comment on your draft report and encourage your full consideration.

A handwritten signature in cursive script, reading "Judy Ann Miller", is positioned above the typed name.

JUDY ANN MILLER  
Acting Assistant Secretary of the Air Force  
(Manpower, Reserve Affairs,  
Installations and Environment)

1 Atch  
Comments on  
DoD IG Report

**COMMENTS  
ON THE  
DOD INSPECTOR GENERAL DRAFT REPORT  
ON THE  
FY91 NELLIS HOSPITAL MCP PROJECT**

1. The DoD Inspector General (DoD/IG) recently submitted a document dated 24 October 1991 and titled, "Draft Quick-Reaction Report on Construction of Nellis Air Force Base, Nevada Hospital (Project No. 1FC-0026.01)" to the Assistant Secretary of Defense for Health Affairs. This report presented the findings of a DoD/IG audit of health care needs and the hospital construction project at Nellis Air Force Base (AFB). The report concluded that a replacement hospital is not economically justified at Nellis AFB and recommends the project now under construction be halted immediately.

2. The Air Force strongly non-concurs with the DoD/IG report. The conclusion reached by the DoD/IG is in error and the recommendation to halt construction cannot be supported. Perhaps the most serious flaw in the audit is that it does not comply with the requirements of Section 1087 of the United States Code and does not comply with DoD policy guidance for the performance of medical facility economic analysis (EA). The DoD/IG report also does not follow the EA methodology of the DoD DMFO. In addition to the serious flaws in the EA methodology used by the DoD/IG, incorrect and inappropriate data are cited. Some of the major shortcomings of the data used in the DoD/IG audit which invalidate the conclusions of this report include:

- A) The DoD/IG cites an erroneous figure, 49,878, for the Nellis catchment area population. In fact, the population is 56,038 and is projected to grow to 57,148 by the beneficial occupancy date of the new facility.
- B) The DoD/IG seriously understates utilization of inpatient services. Referrals to other DoD hospitals, for example were not considered in this audit and in FY 90 these referral patients required over 4,500 days of care.
- C) Order of magnitude errors are cited regarding CHAMPUS inpatient costs. The DoD/IG incorrectly states that CHAMPUS inpatient care is \$ 713 per day and potential saving from recapture of CHAMPUS work is only \$ 164 per day. In fact, this cost was at least \$1,195 per day during 1990 and will probably exceed \$ 1,300 by the beneficial occupancy date of the new facility. Potential savings, therefore, are at least \$ 646 per day and will probably be greater than \$ 750 in the near future.
- D) The DoD/IG report erroneously states fire and life safety deficiencies in the existing Nellis hospital can be corrected with \$ 1.5 million. The report also incorrectly implies this investment will create a functional 65 bed facility. In fact, correction of utility and life safety deficiencies will cost \$ 7.5 million. The existing building and adjacent property cannot support the building addition necessary to correct space and functional deficiencies.

**MANAGEMENT COMMENTS: DEPARTMENT OF THE AIR FORCE** (Cont'd)

E) The DoD/IG audit recognizes the participation of the Department of Veterans Affairs in the hospital project (with 52 beds) and compliance with Public Law 97-174 to promote sharing of health care resources. However, the economic benefit gained by VA participation is not considered.

3. Construction of the the new Nellis hospital remains the most cost-effective means of meeting the health care requirements of DoD beneficiaries in this area. The conclusions reached in the original 1984 economic analysis remain valid and have not be disproven by information presented in the DoD/IG audit.

4. The Department of Defense (DoD) is required to cost-justify military hospital construction projects by the 1982 amendment to Title 10, Section 1087, of the United States Code. Under the direction of the Air Force (AF) and the DoD Defense Medical Facilities Office (DMFO), a method of defining the most cost-effective approach to providing peacetime health care to eligible beneficiaries has been developed. Since 1983 this methodology has been successfully used to analyze health care requirements and hospital construction options associated with numerous Army, Navy and Air Force projects.

5. The following portions of this paper presents important background information necessary to evaluate the finding of the DoD/IG. Part One outlines the EA procedures currently used by the DoD DMFO and describes the factors considered in these procedures. Part Two compares this EA methodology with the DoD/IG methodology and highlights the major deficiencies of the DoD/IG audit within that context.

**PART ONE:  
ECONOMIC ANALYSIS PROCEDURES**

The EA procedures consist of seven steps. A brief description of each step together with the organization and relationship between steps follows.

**Step 1. Assess Federal and Civilian Health Care Resources**

The initial step in the EA is to identify and document the health care resources available to satisfy the needs of DoD beneficiaries in the geographic area of interest. This step involves a detailed examination of all existing military medical treatment facilities (MTFs). In addition, the resources and capabilities of other federal and civilian medical facilities are evaluated.

**Step 2. Forecast Total Catchment Area Demand**

In Step 2, the total health care requirements of DoD beneficiaries residing in the area of interest are estimated. The underlying framework for development of these estimates is:

Population -----> Illness -----> Utilization -----> Required Medical Resources

Therefore, Step 2 is broken down into four procedures:

- 2A. Forecast Catchment Area Population,
- 2B. Develop Base Year Utilization Rates,
- 2C. Develop Future Utilization Rates, and
- 2D. Forecast Total Demand

**Step 2A. Forecast Catchment Area Population**

The population of interest consists of all DoD beneficiaries living in the catchment area of the MTF. Beneficiaries having a zip code of residence within 40 miles of the MTF are considered in the catchment area.

DoD beneficiaries must participate in the Defense Enrollment Eligibility Reporting System (DEERS) to obtain access to health care services. Once a year a census of DEERS beneficiaries, by resident zip code, is prepared. These DEERS counts provide the best information on DoD beneficiary population.

The beneficiary population is then forecast several years in the future (to the beneficial occupancy date (BOD) of a new or replacement facility). The latest DEERS count of active duty and dependent of active duty beneficiaries is adjusted to consider known mission changes. The number of retirees, dependents of retirees, survivors and other beneficiaries are adjusted according to actuarial data and historical growth trends of these population groups in the catchment area.



**Step 2B. Develop Base Year Utilization Rates**

Historical utilization of health care resources in the catchment area are defined. Data documenting services performed in the MTF, both inpatient and outpatient, are obtained together with services purchased through civilian sources and reimbursed by the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). In addition, data on referrals of beneficiaries to other DoD medical facilities outside the catchment area and supplemental/cooperative care data, are obtained. Finally, estimates are developed for care provided to DoD beneficiaries which has not been reported.

These data are used to define a matrix of base year medical care utilization rates. The matrix included 13 inpatient and 20 outpatient services for each beneficiary group (active duty, active duty dependents, retirees, retiree dependents, survivors and others).

**Step 2C. Develop Future Utilization Rates**

Next, future year utilization rates, by medical specialty and beneficiary category, are forecast. The future year projections consider trends and changes in the provision of medical care such as the shift from inpatient to outpatient services and reductions in inpatient length of stay. The projections also consider the impact associated with the introduction or discontinuation of medical specialties.

**Step 2D. Forecast Total Demand**

Finally, total catchment area demand is forecast. The demand forecast is created by multiplying the projected population, developed in Step 2A, by the projected utilization rates, from Step 2C. Total catchment area demand, therefore, is medical specialty and beneficiary category specific. These estimates of health care requirements are the basis for the alternative scenarios derived in Step 3.

**Step 3. Generate Alternative Scenarios**

The purpose of Step 3 is to define various scenarios for satisfying the forecast demand developed in Step 2. Under each scenario, total demand is partitioned among the DoD, other federal and civilian hospitals and health care resources.

The scenarios considered include:

**A) No MTF**

This scenario considers the civilian capacity to absorb work historically performed in the MTF, the impact of no MTF on military referral patterns and the diminution of the health care benefit available to catchment area residents.

- B) MTF for active duty and dependents of active duty  
This scenario is intended to comply with the requirements of DoD Instruction 6015.17 and other OASD(HA) guidance. The MTF necessary to meet the projected health care needs of active duty and their dependent beneficiaries only is determined.
- C) MTF for active duty and AD dependents, plus 5 percent for non-teaching and 10 percent for teaching hospitals  
This scenario is the same as B, above, with incorporation of an additional increment of medical care demand to facilitate training as required by DoD Instruction 6015.17 and other OASD(HA) guidance.
- D) Status quo  
The purpose of this scenario is to estimate the cost of upgrading the existing MTF to repair life safety and building systems only. The volume and types of medical services provided by the MTF are assumed to remain unchanged from the base year.
- E) The best economic solution (BES)  
This scenario considers the cost-effectiveness of each inpatient and outpatient service for each beneficiary population group. The MTF is sized to accommodate only those services and populations which are found to be cost-effective to the Government.

During Step 3, the MTF personnel requirements of each scenario identified above are determined. The personnel are determined by medical specialty and by military officer, enlisted and civilian.

**Step 4. Determine Scenario Space Requirements**

This step produces the space requirements, using current DoD facility sizing criteria, for each of the alternative scenarios developed in Step 3. A computerized facility planning model is used to automate the development of space requirements associated with each scenario. The space requirements are used in Step 5 to develop construction alternatives and to estimate the associated costs of construction for each scenario.

**Step 5. Develop Scenario Construction Solutions**

This step is also performed for each scenario developed in Step 3. First a construction solution which satisfies the space requirements of each scenario and considers the existing facility and site is developed. The construction solution considers addition and alternation as well as new construction options. Block plans are developed for each solution showing the facility footprint, road access, parking, ancillary buildings and other important items.

Based on the block plans, construction costs are estimated. The cost for square footage planned for renovation and the level of necessary renovation as well as the cost of new construction square footage are included in this analysis.

Then, a recommendation for replacement or addition/alternation is made for each scenario. This recommendation includes (but is not limited to) factors of:

- The existing facility deficiencies and condition,
- The ability of the existing facility to accept an addition,
- Current facility site and adjacent area for expansion,
- The availability of alternative sites,
- Potential alternative uses of the existing medical facility,
- The impact of phasing during addition/alternation, and
- Construction costs for replacement and addition/alteration

At the conclusion of this step, for the scenarios identified in Step 3, the recommended facility solutions and the construction costs of these solutions are known.

**Step 6. Estimate Medical Specialty Cost Functions**

The purpose of Step 6 is to develop medical specialty and beneficiary category specific cost functions to analyze the cost-effectiveness of alternative health care delivery methods. The costs of providing care in the MTF are determined as well as the marginal costs of additional increments of service. The costs of care provided outside the MTF through civilian providers and reimbursed by CHAMPUS are also studied. The analysis includes the costs per patient disposition, per inpatient day (bedday) and per outpatient visit.

**Step 7. Analyze Health Care Costs**

Step 7 completes the economic analysis process by determining the most cost-effective level and mix of services to be provided in a new or renovated MTF. The cost functions identified in Step 6 are applied to projected demand requirements of Step 3 and the most economical level of services for the MTF to provide are determined.

This alternative, the best economic solution or BES, is then compared to the other options noted in Step 3 (No MTF, MTF for AD and AD dependents, MTF or AD and AD dependents plus training and the Status quo). The 25 year life cycle cost of each scenario is then calculated and compared.

**PART TWO:  
COMMENTS  
ON THE  
DOD INSPECTOR GENERAL DRAFT REPORT  
ON THE  
FY91 NELLIS HOSPITAL MCP PROJECT**

The major AF concerns regarding the DoD/IG Nellis Hospital report are summarized below. This summary will follow the Economic Analysis (EA) process outlined in Part One of this paper.

Step 2. Forecast Total Catchment Area Demand  
Step 2A. Forecast Catchment Area Population

The USAF Surgeon General non-concurs with the information presented by the DoD/IG regarding catchment area population. The following statistics are presented by the DoD/IG:

<u>Act Duty</u>	<u>AD Dep</u>	<u>Retirees</u>	<u>Ret Dep</u>	<u>Surv/Oth</u>	<u>Total</u>
Actual 1983 (DEERS)					
10,742	14,824	8,472	16,439	708	51,185
Projected 1991 (1984 economic analysis)					
12,031	16,603	11,647	22,526	821	63,628
Estimated 1991 (HQ TAC)					
6,150	12,483	12,175	17,654	1,416	49,878

The estimated 1991 population figures cited by the DoD/IG are in error. The best available information on current population is provided by beneficiary counts of the Defense Enrollment Eligibility Reporting System (DEERS). DEERS data from a beneficiary count performed on 30 September 1990 are as follows:

<u>Act Duty</u>	<u>AD Dep</u>	<u>Retirees</u>	<u>Ret Dep</u>	<u>Surv/Oth</u>	<u>Total</u>
Actual 1990 (DEERS)					
8,692	17,978	12,162	15,093	1,776	56,038

The DoD/IG states in error that the active duty population is currently 5,881 or about half the number originally projected in the 1984 economic analysis (EA). The active duty population as of 30 Sep 1990 was actually 8,692.

Given the base year population, the next step in the EA process is to project this population to the beneficial occupancy date of the proposed facility. The hospital under construction at Nellis is projected to open during the summer of 1994. The best available population projection to this date is as follows:

<u>Act Duty</u>	<u>AD Dep</u>	<u>Retirees</u>	<u>Ret Dep</u>	<u>Surv/Oth</u>	<u>Total</u>
Projected 1994					
6,490	14,732	15,239	18,911	1,776	57,148

The 1994 projected population subtracts 2,342 active duty and 3,443 AD dependent personnel currently associated with the mission at Tonopah and living in the Nellis catchment area.

The DoD/IG understates the continuing growth of retiree and retiree dependents in the report. From 1988 through 1990 (according to DEERS population counts) the combined growth of this population was approximately 5.8 percent per year. The number of retired beneficiaries are projected to increase at this rate between now and 1994.

No new missions are currently projected to relocate at Tonopah after the current personnel depart. The DoD/IG appears to assume Tonopah will remain unoccupied. If this assumption is correct, the beneficiary population at BOD will be approximately 57,148. This figure is less than the 63,628 population projected by the 1984 EA by about 10 percent. The difference is mainly in active duty and AD dependent beneficiaries.

In addition, approximately four percent of the outpatient services provided at Nellis during FY 90 were to beneficiaries from outside the catchment area. These data suggest the Nellis MTF is attracting a population larger than just those within the 40 mile catchment area. Overall, the difference between the number of beneficiaries projected by the 1984 EA and the current population is not great.

**Step 2B. Develop Base Year Utilization Rates**

The DoD/IG report documents 8,141 beddays and 226,248 outpatient visits in the Nellis MTF during FY 90. The report also documents 18,243 beddays and 26,672 visits provided through CHAMPUS during this period.

The DoD/IG report does not recognize the number of beneficiaries referred to other DoD facilities, supplemental and cooperative care and care purchased with centrally managed allotment funds. The DoD/IG report also does not recognize care provided to beneficiaries but not reported.

It was not possible on short notice to obtain and validate all of the utilization figures not considered by the DoD/IG. However, there were a total of 4,520 beddays of care provided to Nellis catchment area beneficiaries in other DoD hospitals during FY 90 (RCMAS, USAF90). These referral patients alone account for an average census of 12.4 beds. Clearly, a substantial portion of these patients can be accommodated in the new hospital.

**Step 2C. Develop Future Utilization Rates**

Further, the DoD/IG report does not attempt to project the utilization figures obtained for FY 90 to future years. The report also fails to recognize that utilization must be forecast by medical specialty and beneficiary category to be meaningful. The report assumes the services required by beneficiaries will

remain constant in future years regardless of changes in population and medical practice.

Demand for health services clearly increases with age. As the retiree population grows, therefore, substantial increase in the demand for health care can be expected. The DoD/IG report does not recognize this and many other important utilization factors.

**Step 2D. Forecast Total Demand**

Development of these specialty and beneficiary category specific utilization rates is no small task. Mainly for this reason, the DoD DMFO has contracted with health care consulting firms to perform this service as part of the EA process. Re-accomplishment of specialty and beneficiary category demand forecasts is expensive, time consuming and not warranted.

**Step 3. Generate Alternative Scenarios**

The DoD/IG report states that the methodology used in the EA for Nellis was unrealistic in projecting savings of \$26.8 million, based on a comparison of the operating costs of a new MTF compared to no MTF. None of the other options considered by the study are noted.

The DoD/IG appears to be unfamiliar with the requirements of Title 10, Section 1087 of the United States Code, DoD and Instruction 6015.17, and other DoD facility sizing guidance. These documents require consideration of a range of alternatives (No MTF, MTF for active duty and dependents of active duty, MTF for active duty and AD dependents plus 5 percent for non-teaching hospitals, status quo and the best economic solution).

**Step 5. Develop Scenario Construction Solutions**

The DoD/IG report states that the existing facility has a capacity of 65 beds and that this facility can be improved to meet fire and safety codes for \$1.5 million. These statements are in error.

The Nellis hospital was originally constructed as a 65 bed hospital. Modification of the facility to increase clinic capacity has reduced the inpatient capacity to 53 beds. However, it is unrealistic to assume state-of-the-art health care for even 53 beds can be provided in this 26 year old facility. Substantial changes in the practice of medicine have occurred during this period and the existing facility does not contain the necessary ancillary, diagnostic and support space and equipment.

The operating bed capacity of the Nellis MTF is 35 beds. Operating bed capacity is defined as the number of beds set-up, staffed and properly supported to provide inpatient medical care. The DoD/IG report inappropriately compares the 65 bed original constructed capacity with the 23 bed average

**MANAGEMENT COMMENTS: DEPARTMENT OF THE AIR FORCE** (Cont'd)

daily census in FY 90. The comparison should be made between the operating bed capacity of 35 and the census of 23 (average occupancy of 66 percent).

Further, volume three of the 1984 economic analysis documents existing facility deficiencies. This portion of the analysis has not been adequately considered by the DoD/IG. The DoD/IG incorrectly implies with an investment of \$1.5 million an adequate state-of-the-art medical facility can be obtained. Current estimates to correct life utility and life safety deficiencies alone total \$7.5 million.

If a \$7.5 million investment were made in the existing facility, state-of-the-art care could not be provided. In addition to the documented life safety and utility deficiencies, there are numerous functional and space deficiencies. These deficiencies are particularly evident in outpatient clinic areas.

The existing Nellis facility and adjacent site do not contain sufficient space to resolve these space deficiencies. After careful study, the 1984 EA study concluded that both the status quo (upgrade but do not add space to the existing building) and the addition/alternation options were not cost-effective. The most economical alternative was replacement. The DoD/IG audit has provided no information to change these conclusions.

**Step 6. Estimate Medical Specialty Cost Functions**

Perhaps the most serious errors noted in the DoD/IG report are regarding medical specialty costs. As noted in part one of this paper, it is necessary to estimate the costs of medical care by specialty and beneficiary type. The DoD/IG has failed to develop this level of analysis. Instead, all CHAMPUS costs were simply added together and an aggregate cost per bedday (regardless of specialty and regardless of beneficiary category) was developed.

As an example of the degree of error introduced by this approach, the DoD/IG report cites CHAMPUS inpatient costs of \$713 dollars per bedday. The report states this amount is much lower than the average cost per CHAMPUS bedday used in the 1984 EA of \$1,349 per day. The DoD/IG then erroneously continues to calculate the overestimated cost savings in the EA.

The majority of inpatient care provided to beneficiaries during FY 90 was for psychiatric services which the AF does not provide in the existing Nellis facility and is not planning to provide in the new facility. Presenting the CHAMPUS beddays in just two specialty categories, psychiatric and all other:

	Beddays	Ave Cost	Total Cost
Psychiatric	11,904	458	5, 446,938
Non-Psychiatric	6,339	1,195	7,572,405
Total	18,243	\$ 713	\$ 13,019,343

**MANAGEMENT COMMENTS: DEPARTMENT OF THE AIR FORCE** (Cont'd)

The AF has no intention of recapturing the Psychiatric beddays and these days significantly lower the average cost per bedday. The average cost of the inpatient work the AF is planning to recapture is much closer to the \$ 1,195 figure from in FY 90. Obviously, the "overestimated cost differential" calculated by the DoD/IG is erroneous. It is important to recall, however, the correct method for estimating recapture potential must be medical specialty and beneficiary category specific. The DoD/IG report fails to provide the appropriate level of detail regarding CHAMPUS recapture potential.

The DoD/IG states they project CHAMPUS costs per bedday and per visit will decrease. It is difficult to understand how this projection was reached. Incentives provided under the prospective payment system to shorten length of stay have caused average patient acuity and average cost per day in civilian hospitals to increase in recent years. The most recent CHAMPUS data (OCHAMPUS report of patients Apr 90 thru Mar 91) from the Nellis catchment area suggests costs for non-psychiatric care have increased to over \$1,300 per day during the first half of FY 91.

On the outpatient side, no prospective payment type controls are in place and both the volume of services provided and the cost per visit continues to increase. As noted previously, however, the average cost per visit is not meaningful. The cost of the specific visits planned for recapture is important.

While it is inappropriate to apply non medical specialty and beneficiary category specific cost data, a more accurate estimate of the true CHAMPUS recapture potential is approximately \$ 1,300 per bedday and \$ 81 per visit ( not \$ 713 per bedday and \$ 79 cited in the DoD/IG report). In addition, the greater historical rate of inflation experience by CHAMPUS and the depressed rate of inflation in military salaries will increase the cost difference between CHAMPUS and the direct care system. The DoD/IG has not considered changes in CHAMPUS costs over time.

It is important to note the CHAMPUS data cited by the DoD/IG is compiled for a 15 month reporting period. Beneficiaries are allowed two years to file claims. Therefore, this CHAMPUS report is incomplete and includes only about 90 percent of the actual work performed during the fiscal year. The DoD/IG has not considered the additional CHAMPUS workload and costs not reported in the 15 month CHAMPUS summary.

The DoD/IG applied the same aggregate cost methodology in determining the cost of care in the direct care system. Each additional increment of care provided in the MTF is assumed to cost the average cost. This methodology is flawed. The 1984 economic analysis quantified the specialty specific start-up and the marginal cost of additional increments of service provided in the MTF. Generally, an economy of scale is realized such that as the volume of service provided in the MTF increases, average cost decreases. Thus, as additional services are provided through the MTF the average cost per unit of service can be expected to decrease (not remain constant as the DoD/IG report assumes).



Participation of the Department of Veterans Affairs (VA) in the Nellis facility enhances the potential economy of scale. For example, 77 beds and approximately 320,000 square feet of the facility will be operated by the AF. The VA will operate 52 beds with the addition of only 52,000 square feet. The VA does not incur the start-up costs and square footage associated with core, ancillary and support services. Similarly, the additional increment of services provided to VA beneficiaries will tend to lower AF unit costs for these services. Sharing of federal resources at Nellis is consistent with Public Law 97-174. The DoD/IG report does not consider costs and savings associated with the joint AF and VA operation of this facility.

It is important to note the DoD/IG report considers only the peacetime care provided by the Nellis MTF. There are a significant number of military specific medical functions provided through this facility which are not generally reimbursable such as military environmental and public health, aerospace medicine and bioenvironmental engineering. In addition, all members of the medical staff receive wartime readiness training. These medical military members are not available to provide peacetime care 100 percent of the time yet 100 percent of the cost of this staff is considered in calculating the cost per outpatient visit and bed day at Nellis.

**Step 7. Analyze Health Care Costs**

The final step in the economic analysis process is determination of the best economic solution (BES) and comparison of the life cycle costs of each facility option. The DoD/IG report does not attempt to recalculate BES and does not consider the life cycle cost implications of its recommendations as required by Title 10, Section 1087, of the United States Code and other DoD guidance. It is not possible to quickly or easily reaccomplish the 1984 EA and regenerate the workload projections, start-up and marginal direct care costs and CHAMPUS costs for each of the inpatient and outpatient medical specialty and each beneficiary category.

However, the DoD/IG has not provided information which suggests the original analysis was in error. The population projected by the original study is not far off. Inpatient bed utilization is lower than projected and outpatient visits are higher than projected. The minor population and utilization differences have minimal impact on the size and design of the facility currently under construction. The overall cost of CHAMPUS is very close to the projection in the original EA. Direct care costs have not been recalculated but appear to be overstated by the DoD/IG. Given the age, current state of repair and ability to accommodate additional space adjacent to the existing facility, the replacement option remains as the most promising alternative in the near term and over a 25 year life cycle. The recommendations of the DoD/IG are not supported by available data or the analysis presented in the 24 October draft report.

## AUDIT RESPONSE TO AIR FORCE COMMENTS

### Reference: Air Force Comments, Paragraph 2.

The Air Force stated that the most serious flaws in the audit are that it does not comply with the requirements of United States Code, title 10, section 1087 and DoD policy guidance on the performance of medical facility economic analysis and it does not follow the economic analysis methodology of the DoD Defense Medical Facilities Office. (As required by the 1982 amendment to United States Code, title 10, section 1087, the DoD is required to cost-justify military hospital construction projects.)

We disagree with this statement. We evaluated the Air Force's economic analysis, given the guidelines of Public Law 97-337 and DoD Instruction 7041.3, and found the analysis flawed. As stated in our report, there were problems in the applied methodology and in the figures used in the analysis. We adjusted the data used in the 1984 economic analysis to present to the reader an updated assessment of whether the project was economically justified.

### Reference: Air Force Comments, Paragraph 2.d.

The Air Force stated that the \$1.5 million cost for correction of fire and life safety deficiencies is incorrect. The Air Force stated that correction of utility and life safety deficiencies will cost \$7.5 million.

Upon receipt of the Air Force's comments, we requested detailed support for the \$7.5 million estimate. The Air Force provided a written response on December 3, 1991. The Air Force stated that its estimate was based on cost factors developed by the Defense Medical Facilities Office and that an engineering study would be required to determine the actual costs. As stated in our response to the ASD (HA), the \$1.5 million estimate used in our report was based on an on-site analysis performed by the Nellis MTF. Any needed correction of utilities was not addressed in the 1984 economic analysis, and we were not informed of a need for such correction during our on-site visits. The wide range of estimates for the cost of upgrading the existing MTF indicates the weakness in the overall justification for the new construction alternative.

The Air Force's comments that parallel comments by the ASD (HA) are addressed in Enclosure 5.

MANAGEMENT COMMENTS: DEPARTMENT OF VETERAN AFFAIRS



DEPARTMENT OF VETERANS AFFAIRS  
Office of Inspector General  
Washington DC 20420

NOV 8 1991

Office of Inspector General  
Department of Defense  
400 Army Navy Drive  
Arlington, Virginia 22202-2884  
ATTN: Shelton R. Young, Director  
Logistics Support Directorate

SUBJ: Draft Quick-Reaction Report on Construction  
of Nellis Air Force Base, Nevada, Hospital  
(DoD-OIG Project No. 1FC-0026.01)

1. Per your request, the subject report was transmitted by this office to VA officials for comment on October 24, 1991. Enclosed is the response of the Chief Medical Director, with an attached "White Paper" providing justification for VA's portion of the joint venture.

2. Please be aware that the data contained in the response has not been audited. If you have any questions concerning this matter, you may contact me at 202-233-2259 or Michael Slachta at 202-233-3110.

A handwritten signature in cursive script, reading "Michael G. Sullivan".

MICHAEL G. SULLIVAN  
Assistant Inspector General for Auditing

Enclosure

ENCLOSURE

DEPARTMENT OF  
VETERANS AFFAIRS

Memorandum

Date: NOV 08 1991

From: Chief Medical Director (10)

Subj: VA/Air Force Venture at Nellis AFB, Las Vegas, NV

To: Inspector General (53)

1. Attached is justification for the continued effort to establish 52 VA inpatient beds in conjunction with the U.S. Air Force construction project at Nellis Air Force Base. A copy of this justification has also been forwarded to the Honorable Dick Cheney, Secretary of Defense.
2. The Veterans Health Administration has made exhaustive efforts to revalidate the need for these 52 beds. Employing the new and accepted Bed-Sizing Model, the projections clearly indicate a need for approximately 3 to 4 times as many beds as the 52 planned. This, plus the total of \$9.3 million cost for these 52 beds, continues to make this initiative extremely necessary and attractive to the Department of Veterans Affairs.
3. I continue my full support for this project and am confident that you will also share my enthusiasm and support for this project as well.

  
James W. Holsinger, Jr., M.D.

Attachment

**MANAGEMENT COMMENTS: DEPARTMENT OF VETERAN AFFAIRS (Cont'd)**

Department of Veterans Affairs  
Veterans Health Administration

White Paper

Justification for VA/Air Force Joint Venture at Nellis AFB, Las Vegas

**Purpose:** The purpose of this White Paper is to provide information in response to a draft DOD/IG Report on this project. In summary, the IG concludes that the project is not economically justified based on current demonstrated demand for inpatient services for Air Force or VA beneficiaries in the Las Vegas area, and that construction should be terminated immediately.

**Background/Original Justification for Project:** A Joint Venture Feasibility Study/Economic Analysis was completed in 1985 by Vector Research, Inc., a contracted consulting firm. This study provided the impetus for both the VA and the Department of Defense to approve a joint venture construction project. The Vector Study noted problems in the VA healthcare delivery system for veterans in the Las Vegas area, in terms of cost-effectiveness and the major inconvenience to veterans and their families having to travel at least 240 miles for hospital care in Southern California. The projected increases in the veteran population in this area and the many advantages of sharing construction and healthcare operations with the Air Force were further cited in support of the project.

**Planned Scope of the Project:** The Las Vegas Federal Medical Center is situated on a 49 acre site adjacent to Nellis Air Force Base; approximately 8 miles northeast of downtown Las Vegas. The medical center will encompass 129 beds; with 52 VA and 77 Air Force beds designated. The VA beds will include 24 Medical, 12 Surgical, 14 Psychiatry and 2 ICU. The Air Force beds will include 54 Medical/Surgical, 17 Obstetric and 6 ICU. Total gross interior square footage at the medical center will include 320,462 for the Air Force and 52,232 for the VA. The total Air Force Project cost is \$66 million and the VA cost is \$9.3 million.

**Current Status of the Project:** The design phase of the project was completed in November, 1990. Bid opening occurred in April, 1991 and on June 21 the general construction contract was awarded. A ground-breaking ceremony was held on July 2 and on July 24 the contractor was issued the first notice to proceed with construction. On October 21, the contractor received the second notice to proceed and began foundation preparation for the first floor of the medical center. The contractor began foundation work on the Central Energy Plant and War Readiness Material Warehouse on October 23. The Construction Management Team Building is 95 percent complete and occupancy is scheduled for the first week in November.

**Current VA Healthcare Delivery System in Las Vegas:** The Las Vegas VA Outpatient Clinic is a 38,000 net square foot leased facility located in downtown Las Vegas. An additional 4,975 net square feet of primarily administrative space has been leased in the Charleston Towers Office Building adjacent to the Clinic. The Clinic offers a broad spectrum of ambulatory care services and programs. It coordinates the hospitalization of veterans at VAMCs in Southern California, at local community hospitals or at Nellis

**MANAGEMENT COMMENTS: DEPARTMENT OF VETERAN AFFAIRS (Cont'd)**

through a sharing agreement. Veterans must travel considerable distances for VA hospital care. The nearest VAMC in Southern California (Loma Linda) is over 220 miles while Phoenix is 286 miles, Salt Lake City is 434 miles and Reno is 444 miles.

Workload at the Clinic has increased steadily in recent years growing from 61,137 staff outpatient visits in FY86 to 82,276 visits in FY91. Unique patients have risen proportionately from 9,511 in FY88 to approximately 10,400 in FY91. Recently published Resource Planning and Management (RPM) projections indicate that the clinic could accomplish 117,962 outpatient visits in FY93 and 125,767 outpatient visits in FY94. Another clear indicator of growth in Las Vegas workload is the increase in "Applications for Medical Benefits" (VA Form 10-10). Applications for Medical Benefits at the Clinic have increased from 2,991 in FY86 to 4,267 in FY91. These workload increases, which are attributed primarily to the demographic trends in the Las Vegas area, have been significantly higher than regional and national trends. For instance, the Las Vegas outpatient visits increased 23.4 percent from FY87 to FY90, compared to 7.5 percent for the Western Region and 7.9 percent for the VA system. Applications for care during the same period increased 44.1 percent in Las Vegas, compared to 4.4 percent for the VA system and a 2.1 percent increase in the Western Region.

The veteran population served at the LVOPC is 59.8% Service-connected. A review of 1,901 Non Service-connected (NSC) veterans treated in FY91 revealed that the average annual income of this group was only \$7,963.97 per year.

As the demand for outpatient services in the Las Vegas catchment area continues to grow dynamically; similarly, the demand for inpatient services has also reflected significant increases. In FY91 the average daily census (ADC) in the contract hospital program increased to 5.3 from 2.4 in FY 90. Although there was a decrease in contract hospital average cost per day from \$2,532 per day in FY 90 to \$1,552 per day in FY 91, primarily due to the advent of Medicare DRG rates, the Clinic's contract hospital costs increased from \$2,190,000 in FY90 to \$3,001,800 in FY91. The Clinic expects both costs and ADC in contract hospital to continue to increase in the future. Although the IG report points to the modest average daily census (ADC) in local community hospitals, it does not recognize that under the rules for the emergency hospitalization of veterans in non-VA institutions, they can be kept only as long as is necessary to stabilize them for transfer to a VA facility.

A FY 1991 sharing agreement with the existing 35 bed component at the 554th Medical Group, Nellis Air Force Base resulted in 42 bed-days of inpatient care and 267 outpatient visits based upon VA referrals. The VA derived substantial savings from both inpatient care, \$502 per day of care at Nellis compared to \$1,552 in community facilities, and \$62 per outpatient visit (all inclusive).

Demographics of the Las Vegas Area: Las Vegas does not have an official primary service area (PSA), because it is not an inpatient facility. It has historically been included in the greater Los Angeles PSA. Based on historical patient origin patterns, over 95 percent of patients seen at the Las Vegas Clinic are from Clark and Nye Counties, Nevada and Mojave County, Arizona. Las Vegas is located in Clark County. For the purpose of analysis the core service area for Las Vegas is defined as this three-county area. The current and projected veteran population base in this three county service area is shown on the following table. The 1990 veteran population in this

**MANAGEMENT COMMENTS: DEPARTMENT OF VETERAN AFFAIRS (Cont'd)**

core service area of 101,697 is larger than that of the entire veteran population of eight other states (Wyoming, Alaska, North Dakota, Vermont, South Dakota, Delaware, Montana and Hawaii), plus the District of Columbia. It should also be noted that Las Vegas serves a large portion of veterans from other counties in Nevada, Arizona and Utah; if the veteran population from these counties were added to the Las Vegas service area, it would total approximately 116,000.

**Veteran Population in the Las Vegas Core Service Area**

	1990	2005
Clark Co., NV	85,660	82,348
Nye Co., NV	2,759	3,801
Mojave Co., AZ	<u>13,278</u>	<u>13,455</u>
TOTAL	101,697	99,604

The above projections continue to use baseline data from the 1980 U.S. Census. Veteran population data from the 1990 Census will not be available until 1992. However, there are some significant general population trends from the 1990 Census shown for Nevada and Clark County in particular. Nevada had the largest percentage increase in general population from 1980 to 1990 of any state (50.1 percent, compared to the national average of 9.8 percent). The population in Clark County has increased at an even greater rate, from 463,087 in 1980 to 741,459 in 1990 (60.1 percent). Much of the rapid growth in the Las Vegas area has been in the retiree population. The veteran population projections that are produced next year should reflect this considerable in-migration to the Las Vegas area. From 1970 to 1980, Nevada had the highest percentage increase in both general and veteran population of any state. It has also been shown that Nevada has the second highest ratio of veterans to total population, second only to Alaska. With the documented highest increase in general population from 1980 to 1990, it is expected that Nevada will also be shown to have the largest percentage increase in veteran population of any state, when veteran population projections are updated in 1992.

The 1990 Census will provide data on the socioeconomic status of the veteran population in the Las Vegas area. The IG indicates that this data is important for them to accept the validity of the current and projected demands in the Las Vegas area. However, as noted in the description of the current VA healthcare system, the Las Vegas Clinic has already documented the extensive demands for VA services and the low average income levels of their non service-connected veteran population. The data available to date from the 1990 Census provides clear evidence of the major demographic trends in the Las Vegas area that will be incorporated in the new veteran population projections to be available next year.

The changes in veteran population in the Las Vegas service area projected for the year 2005 reflect a small percentage decrease of 2 percent. This decrease is significantly lower than the nationwide percentage decrease of 17 percent projected for the same period. More important for projecting healthcare

**MANAGEMENT COMMENTS: DEPARTMENT OF VETERAN AFFAIRS (Cont'd)**

utilization than the total veteran population trends are the changes in age cohorts projected over the next 15 to 20 years. There will be increase in veterans over age 65 of over 20 percent in the next 15 years. Veterans in these older age groups utilize most healthcare services at an increasing rate, and there for these trends need to be considered in determining bed need requirements.

Methods for Projecting Future VA Bed Need Requirements: The Vector Study projected a VA bed need of 52 med/surg beds for the project. Their projection methodology was based on national VA discharge rates but much shorter than actual VA length of stay data, which Vector recognized resulted in a conservative estimate. Also, psychiatry and long-term care beds were not included. The study assumed that these needs would continue to be met by Southern California VAMCs or through fee basis; it was felt that the medical center could be expanded in the future to meet those needs. The Vector study also used a target projection year of 1990 rather than the 2000 or 2005, so the impact of the aging of the veteran population on healthcare utilization is not adequately accounted for in their study.

The Western Region reviewed the plans for the joint venture in 1987/1988. This review questioned the lack of psychiatry beds in the project, since that is a major need in the veteran population and the cost of providing for psychiatric care in the Las Vegas community was high. At that time, the construction planning and design process was well underway, so the Region recommended establishing psychiatry beds (14) within the planned 52 total VA beds, rather than risk delaying the project by seeking an overall bed increase. Thus the bed complement used for sizing the VA portion of this project is still 52: 36 med/surg, 14 psychiatry and 2 ICU beds. VA bed need projections done in advance of the Vector Study supported a greater bed need than the planned 52 beds. Projections of over 200 beds were developed by applying national VA bed ratios to the Las Vegas service area.

The question that always must be addressed in planning for new VA services in a new location is how to adjust for the impact of a VA inpatient presence on our bed need requirements. This question is one of how to define and measure "suppressed demand" or "unmet health care needs". The VA's Bed-Sizing Model is applicable for projecting bed requirements when there is an existing VA presence and a historical VA workload base. However, this is not the case in Las Vegas. When planning for new VA services in new locations, the VA has traditionally utilized needs assessment methodologies which incorporate VA systemwide utilization experience. This type of approach recognizes that actual experience from other areas is the best predictor of utilization in areas where access to care has been limited. It has been clearly demonstrated that utilization of VA healthcare services strongly correlates with the distance of the population from the service; and the distances that Las Vegas veterans must travel for VA hospital care are considerable. Methodologies based on national VA utilization experience have been used for projecting new VA Satellite Clinic workload levels, and have also been used for planning new VA inpatient facilities (e.g., Loma Linda in the 1970s, and West Palm Beach and "East Central" Florida in the 1980s).

Bed need projections for Las Vegas have recently been updated using national and regional VA utilization experience. These projections use data from the recently updated VHA hospital planning model for future (2005) discharge rates



**MANAGEMENT COMMENTS: DEPARTMENT OF VETERAN AFFAIRS (Cont'd)**

and lengths of stay, and apply that data to the 2005 veteran population projected for the Las Vegas service area. These methods result in a projected bed need of 209 if national VA utilization experience is used and 146 beds if regional utilization is used.

Another frame of reference for evaluating the planned 52 beds at Las Vegas is to compare current bed availability ratios per 1,000 veteran population to other VA locations. The following table provides some comparative bed availability information. Even with the 52 VA beds planned for Las Vegas, the number of beds per 1,000 veteran population in Las Vegas will be considerably less than the VA system, the Western Region and other VA medical centers service areas.

Comparison of Bed to Veteran Population Ratios

	1990 Auth. Beds	1990 Vet. Pop. Base	Beds/1,000 Vet. Pop.
Las Vegas	52*	101,697	0.51
Honolulu	105*	99,665	1.05
Loma Linda	428	261,747	1.63
Phoenix	466	270,739	1.72
Reno	168	80,694	2.08
West. Reg.	10,838	5,462,473	1.98
VA Total	67,227	27,004,204	2.49

\*Planned

During FY90, 2,576 veterans from the Las Vegas service area were admitted to VA inpatient facilities throughout the west. Although the Southern California VAMCs are the primary destination of these patients, VAMCs in Reno, Prescott and Salt Lake City also admitted substantial numbers. The following calculations show the number of beds that would currently be required for these Las Vegas service area veterans, based on these FY90 discharges.

2,576 (Discharges)	X	88% (LVFMC Share)	=	2,268
2,268	X	8.146 (ALOS)	=	18,475 (pt days)
18,475	/	365	=	50.6 (ADC)
50.6	/	85% (Occup. Rate)	=	59.5 (Beds)

In this method of reviewing current demand, an adjustment of 88 percent is made to the total number of discharges to reflect that not all veteran discharges from this service area would be captured by the new Federal Medical Center. This estimate was made by the Las Vegas Clinic Chief of Staff and the Chief of Medical Service at Nellis, by analyzing the FY90 discharge diagnoses. Based on the programmed clinical capabilities at the new medical center, it was determined that 88 percent of the FY90 discharges could have been treated at the new Federal Medical Center.

**MANAGEMENT COMMENTS: DEPARTMENT OF VETERAN AFFAIRS (Cont'd)**

As shown, approximately 60 beds would be needed to accommodate this current workload. However, it is important to understand that this number does not account for the impact of projected increases in demand for care associated with the aging of the veteran population during the next 10 to 20 years; the impact of demographic growth trends in the Las Vegas area; and the impact of the current limited access to care for veterans in the area ("suppressed demand"), which are accounted for in VA bed projection methodology referenced earlier.

**Operational Issues Upon Activation of the New Medical Center:** The following questions have been raised in regard to delivery of VA services upon activation.

1. What is the VA operating budget and planned staffing for the new medical center? The last documentation received by the Las Vegas Clinic places the recurring funding level at \$10,395,000, including \$6,234,000 for personal services and \$3,395,000 for all other. The staffing budget is 150 FTEE.

2. What will be the need for contract hospitalization placements upon activation of the new medical center? In FY91, the Las Vegas Clinic referred 290 patients to community facilities for inpatient care. Of this number, it is estimated that approximately 76 percent, or 220 patients could be treated at the new medical center. A review of these 290 patients indicated that a significant number were diagnosed with severe acute emergencies which mandated immediate hospitalization. Therefore, approximately 70 patients per year would potentially need to be admitted to community hospitals under the contract hospital program. It should be noted that with the planned secondary level mission and the programs planned for the new medical center, there will be two categories of patients which will not be able to be accommodated: 1) the emergency admissions noted above, and 2) referrals for special tertiary services or long term care services which will not be available at the medical center. The first category of patients will be accommodated in the contract hospital program and the second category of patients will continue to be referred to other VA medical centers, primarily in Southern California.

3. What is the estimated reduction in contract hospital expenses upon activation of the new medical center? It is difficult to precisely estimate the impact. However, with the 70 patients per year estimated for contract hospital placements, assuming a 5 day average length of stay and a community hospital cost per day of \$1550, this would result in an estimated contract hospital expense per year of \$542,500. This is substantially less than the FY91 contract hospital expenditure of \$3,001,800.

**Conclusions:**

1. The Las Vegas veteran population base is comparatively large. The current core service area of 101,697 is larger than the veteran population in eight other states, plus the District of Columbia.

MANAGEMENT COMMENTS: DEPARTMENT OF VETERAN AFFAIRS (Cont'd)

2. The 1990 U.S. Census documents that Nevada has had the largest percentage increase in general population from 1980 to 1990 of any state (50.1 percent, compared to the national average of 9.8 percent). The population in Clark County has increased at an even greater rate, from 463,087 in 1980 to 741,459 in 1990 (60.1 percent). Much of the rapid growth in the Las Vegas area has been in the retiree population. With the documented highest increase in general population from 1980 to 1990, it is expected that Nevada will also be shown to have the largest percentage increase in veteran population of any state, when veteran population projections are updated in 1992.

3. Workload trends at the Las Vegas Clinic have been significant. These workload increases, which are attributed primarily to the demographic trends in the Las Vegas area, have been significantly higher than regional and national trends. For instance, the Las Vegas outpatient visits increased 23.4 percent from FY87 to FY90, compared to 7.5 percent for the Western Region and 7.9 percent for the VA system. Applications for care during the same period increased 44.1 percent in Las Vegas, compared to 4.4 percent for the VA system and a 2.1 percent increase in the Western Region.

4. Access to VA hospital care is very limited for Las Vegas area veterans. Veterans must travel considerable distances for VA hospital care. The nearest VAMC in Southern California (Loma Linda) is over 220 miles while Phoenix is 286 miles, Salt Lake City is 434 miles and Reno is 444 miles.

5. Application of projection methodologies used in VA planning support a considerably higher bed level than 52. Bed need projections for Las Vegas have recently been updated using national and regional VA utilization experience. These methods result in a projected bed need of 209 if national VA utilization experience is used and 146 beds if regional utilization is used. The approved Concept of Operations for the joint venture stipulates that "the Air Force and the VA will utilize all beds (129) on a space available basis".

6. The demographics and access to care problems for veterans in the Las Vegas area are critical factors in support of the joint venture, as are the many advantages to the federal government in the VA/DOD sharing aspects of the project. The VA/IG (52B) in a 9/4/91 memorandum stated "we do not dispute VHA's decision to proceed with the construction of the Nellis facility, if the basis for the decision is these factors" (demographics and access to care). The Western Region fully supports the need and the approved scope of the VA/Air Force joint venture construction project in Las Vegas, without any modification or reduction.

Western Region (134)  
October 30, 1991

Reference: White Paper, Pages 2 and 3

The VA stated that outpatient work load had increased steadily in recent years, from 61,137 outpatient visits in FY 1986 to 82,276 visits in FY 1991, with projections of 117,962 visits in FY 1993 and 125,767 visits in FY 1994. The VA also stated that applications for medical benefits at the clinic have increased from 2,991 in FY 1986 to 4,267 in FY 1991. These work load increases and applications for medical benefits were attributed primarily to the demographic trends in the Las Vegas area. From 1980 to 1990, Nevada had a 50.1 percent increase in population, while Clark County had a 60.1 percent increase. Much of the growth in the Las Vegas area has been in the retiree population.

We agree that the number of outpatient visits increased between FY 1986 and FY 1991. We believe that the demographic information used to project inpatient needs, however, may be somewhat speculative. For example, although veteran population data from the 1990 Census will not be available until mid-1992, the VA cites general population trends as support for increased work load. The VA lacks information on the financial status and social and health conditions of the anticipated Las Vegas veteran population, factors which directly affect eligibility for most VA health care. In our opinion, the large number of relocating retirees suggests a population that may be less dependent on low-income nonservice-connected eligibility. Furthermore, due to changes and advances in medical treatment many health conditions are now being treated on an outpatient basis instead of an inpatient basis. As a result, outpatient visits are increasing and the overall length of stay for inpatients is decreasing throughout the medical community. Therefore, an increase in outpatient visits may not be an accurate indicator of inpatient needs.

Regarding the increase in applications, the increase does not necessarily equate to an increase in the VA health care obligations in this area. Each application must be examined to determine eligibility and the results analyzed to determine whether the VA's health care requirements are increasing.

Reference: White Paper, Page 2

The VA stated that the demand for inpatient services has increased. The average daily census in the contract hospital program increased from 2.4 patients in FY 1990 to 5.3 patients in FY 1991. While the average cost per patient day decreased from \$2,532 to \$1,552 during this same time frame, total costs increased due to the increased patient work load. The VA expects

that the number of patients and the costs will increase in the future. Further, a FY 1991 sharing agreement with the Nellis MTF resulted in a \$502 average cost per patient day.

We agree that inpatient work load has increased to 5.3 patients; however, this work load represents only 10.2 percent of the 52 bed requirement. Based on supporting documentation for the white paper, the VA will likely fill the 52 beds with patients now transferred to other VA medical centers.

As stated by the VA, the cost per day for services provided in civilian hospitals in the Las Vegas area decreased by \$980 (38 percent) from FY 1990 to FY 1991. Because of the excess capacity existing in civilian health care facilities in the area, we believe additional reductions could be negotiated.

Reference: White Paper, Pages 3 and 4

The VA stated that changes in veteran population in the Las Vegas service area projected for the year 2005 reflect a small decrease of 2 percent. More importantly, there will be more than a 20 percent increase in veterans over age 65 in the next 15 years. Veterans in these older age groups require more health care.

We agree that in 15 years the veteran population over 65 years old will increase by 20 percent. It is also important to recognize that the veterans over age 65 will frequently require specialized and long-term care that will not be available at the proposed Nellis hospital.

Reference: White Paper, Pages 5 and 6

The VA stated that in FY 1990, 2,576 veterans from the Las Vegas area used an average of 59.5 beds in other VA inpatient facilities throughout the west. This number does not account for the effect of projected increases in demand for care associated with the aging veteran population.

Based on the IG, VA's review of the white paper's supporting documentation, we believe that the Las Vegas area veterans, who receive acute care at other VA medical facilities may fully use the 52 VA beds at the new Nellis hospital. The IG, VA's review also disclosed that about 80 percent of these 2,576 patients received their care at 5 VAMCs - Loma Linda, San Diego, and West Los Angeles, California; and Phoenix and Prescott, Arizona. The loss of work load at Prescott and Loma Linda associated with

activation of the Las Vegas facility may have an economic impact on those facilities. For example, 13, 11 percent, of the medical beds at Prescott and Loma Linda were supporting Las Vegas area veterans in FY 1990. In addition, four, 8 percent, of the surgical beds at Loma Linda were in support of Las Vegas area veterans during that period. The average occupancy rate for all bed services at Prescott was 68.0 percent, while the rate for Loma Linda was 54.3 percent, which indicates that shifting patients from these facilities to Nellis will result in even lower occupancy rates.

**Reference: White Paper, Page 7**

The VA stated that its share of the operating cost for the new hospital will be \$10.4 million annually. In addition, the VA stated that it spent \$3.0 million in contract care in the Las Vegas area, which would be reduced by about \$2.5 million if the new hospital was constructed.

The VA operating and contract costs are consistent with those identified by the OIG, VA. These figures demonstrate that the VA portion of the project is not economically justified. Based on the figures that VA provided, a net operating cost increase of \$7.9 million would be incurred annually.

SUMMARY OF POTENTIAL  
BENEFITS RESULTING FROM AUDIT

<u>Recommendation Reference</u>	<u>Description of Benefit</u>	<u>Type of Benefit</u>
Recommendation Page 11	<u>Internal Control</u> Requirement to revalidate each medical construction project.	<u>Undeterminable.</u> We found no reasonable basis to quantify future monetary benefits that would be realized by implementing our recommendation.

## ACTIVITIES VISITED OR CONTACTED

### Office of the Secretary of Defense

Assistant Secretary of Defense (Health Affairs), Washington, DC  
Defense Medical Support Activity, Falls Church, VA  
Defense Medical Systems Support Center, Falls Church, VA  
Defense Medical Facilities Office, Falls Church, VA  
Assistant Secretary of Defense (Program Analysis and Evaluation)  
Washington, DC

### Department of the Army

Corps of Engineers, Washington, DC

### Department of the Air Force

Air Force Tactical Air Command, Langley Air Force Base, VA  
Nellis Air Force Base, NV  
Surgeon General, Bolling Air Force Base, Washington, DC  
Health Facilities Office, Brooks Air Force Base, TX

### Non-DoD Activities

State of Nevada Department of Human Resources, Division of  
Health Resources and Costs Review, Carson City, NV  
U.S. Department of Veterans Affairs, Washington, DC  
Inspector General, Washington, DC  
Outpatient Clinic, Las Vegas, NV  
U.S. General Accounting Office, Washington, DC



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Air Force Audit Agency

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United States General Accounting Office, NSIAD Technical  
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