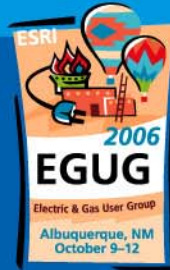


OUTSOURCING GIS DATA SERVICES OFFSHORE A REALITY CHECK

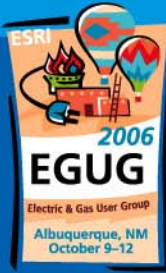
*ISHU WADWANI
APPLIED FIELD DATA SYSTEMS, INC.
&
CINDI SALAS
CENTERPOINT ENERGY*

UTILITY INDUSTRY IS UNDER IMMENSE PRESSURE TO:



- REDUCE COSTS
- IMPROVE PROCESSES
- MAINTAIN STANDARDS
- DELIVER QUALITY SERVICE TO THEIR CUSTOMERS

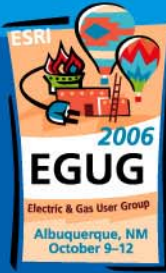
GIS PLAYS AN IMPORTANT PART IN THE UTILITY INDUSTRY



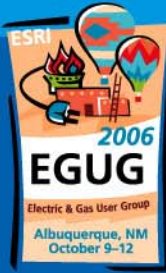
- A WELL PLANNED GIS IN THE UTILITY INDUSTRY RESULTS IN AN EFFICIENT DISTRIBUTION TO SUCCESSFULLY DELIVER QUALITY SERVICE AT AN AFFORDABLE PRICE AND IMPROVE CUSTOMER SATISFACTION

OUTSOURCING CAN BE

- DOMESTIC
- NEARSHORE
- HOMESHORE
- OVERSEAS-ACROSS THE GLOBE



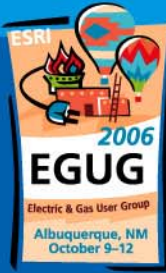
FACING THE CHALLENGE



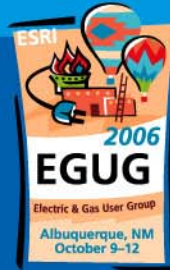
- OUTSOURCING'S PRIMARY CHALLENGE LIES IN
 - DISTANCE
 - TIME
 - CULTURAL DIFFERENCES THAT ERECT BARRIERS TO COMMUNICATION

OUTSOURCING MODELS

- ONSITE
- OFFSITE/OFFSHORE
- HYBRID (COMBINATION)

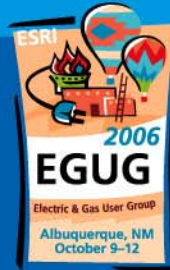


OUTSOURCING MODEL EXAMPLES

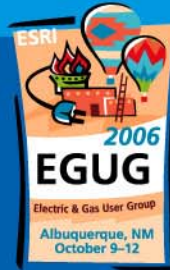


- OFFSITE
 - ROUTINE WORK LIKE DATA CONVERSION, DATA MIGRATION, ETC
- ONSITE
 - PROGRAMS/TOOLS THAT NEED HEAVY INTERACTION OFTEN BETWEEN CLIENT, SOMETIMES CLIENT'S CLIENT AND VENDOR
- HYBRID (ONSITE/OFFSITE/OFFSHORE)
 - SOFTWARE DEVELOPMENT CANNOT BE ASSIGNED WITHOUT THE SPECIFICATIONS, ETC PRECISELY SCOPED OUT AND EXPLAINED.

WHAT BUSINESS ISSUES MAKE OUTSOURCING AN INTERESTING OPTION TO CONSIDER



- COST SAVINGS-OFFSHORE OUTSOURCING
 - MAINLY DUE TO LABOR COSTS BEING MUCH LOWER IN COUNTRIES LIKE, INDIA, PHILIPPINES, RUSSIA, EASTERN EUROPE, CHINA, ETC.
- INHOUSE RESOURCES CANNOT WORK ON THE PROJECT DUE TO WORK OVERLOAD AND DEADLINE TO BE MET
- DEPT.HEAD DOES NOT HAVE TIME TO OVERSEE PROCESSES OF CERTAIN PROJECTS

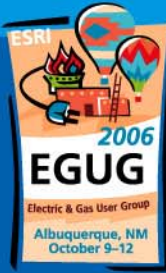


WHAT BUSINESS ISSUES MAKE OUTSOURCING AN INTERESTING OPTION TO CONSIDER (CONTD.)

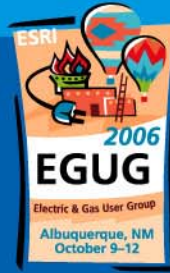
- LOWER COSTS FREES UP MONEY FOR PROJECTS THAT OTHERWISE HAVE BEEN PUT ON HOLD OR MAY HAVE NEVER HAVE BEEN UNDERTAKEN
- FREEING UP INHOUSE RESOURCES FROM CERTAIN PROJECTS WHICH CAN BE OUTSOURCED SO THAT INHOUSE RESOURCES CAN BE UTILIZED FOR OTHER PROJECTS

WHAT GIS RELATED FUNCTIONS/ACTIVITIES ARE CANDIDATES FOR OUTSOURCING

- PROCESS PLANNING
- DATABASE PLANNING
- DATABASE DESIGN
- DATA MAINTENANCE
- DATA CONVERSION
- APPLICATION DEVELOPMENT
- CUSTOMIZED WEB-BASED MAPPING TOOLS
- COPYING, SCANNING AND ASSEMBLING WORK PACKAGES.
- RESEARCH

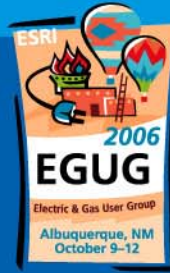


WHAT GIS RELATED FUNCTIONS, ACTIVITIES ARE CANDIDATES FOR OUTSOURCING (CONTD.)



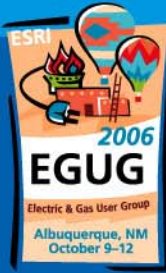
- DATA VALIDATION
 - VALIDATING AGAINST SET OF RULES
- DATA COULD BE
 - LANDBASE
 - ELECTRIC
 - GAS, ETC.

WHAT GIS RELATED FUNCTIONS, ACTIVITIES ARE CANDIDATES FOR OUTSOURCING (CONTD.)



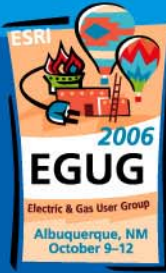
- QA/QC OF DATA
- SYNCHRONIZATION WITH WORK ORDER UPDATES
- CUSTOMIZED TOOLS

FACTORS TO WEIGH BEFORE OUTSOURCING



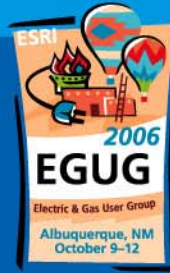
- WILL THE SAVINGS IN LABOR COSTS REALLY OUTWEIGH THE DIFFICULTY OF MANAGING A PARTNERSHIP WITH A COMPANY 8,000 MILES AWAY
- WILL THE QUALITY OF WORK DELIVERED BY THESE COMPANIES MEET INHOUSE STANDARDS
- WILL THE WORK BE DELIVERED ON TIME

FACTORS TO WEIGH BEFORE OUTSOURCING



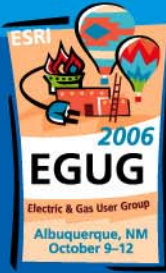
- WILL YOU BE STUCK FOR UPDATES AND MAINTENANCE FOREVER
- DIFFERENCES IN CULTURE AND COMMUNICATION
- WILL VENDOR PROJECT MANAGERS BE ABLE TO UNDERSTAND AND RESPOND TO YOUR NEEDS
- WILL TURNAROUND TIME BE MET

WHAT TO LOOK FOR IN AN OUTSOURCE PARTNER



- EFFECTIVE MANAGEMENT PRACTICES
- SKILL SETS
- EXPERIENCE
- HAS ADEQUATE COPIES OF SOFTWARE LICENCE AS WELL AS UPDATED VERSIONS OF SOFTWARE
- TRAINING PROCEDURES
- DOCUMENTATION

WHAT TO LOOK FOR IN AN OUTSOURCE PARTNER (CONTD.)

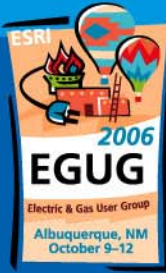


- CERTIFICATION
- CMM- (CAPABILITY MATURITY MODEL) LEVEL 5-
PROCESS QUALITY STANDARDS
A RECOGNIZED STANDARD FOR SOFTWARE
DEVELOPMENT CREATED AT CARNEGIE MELLON
UNIVERSITY'S SOFTWARE ENGINEERING
INSTITUTE

ISO

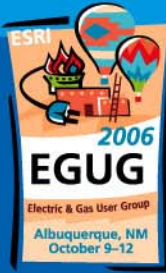
- BRITISH STANDARD INSTITUTES BS7799
- A SET OF CONTROLS FOR SECURITY
MANAGEMENT THAT IS RECOGNIZED AS
WORLDWIDE STANDARD

WHAT TO LOOK FOR IN AN OUTSOURCE PARTNER (CONTD.)



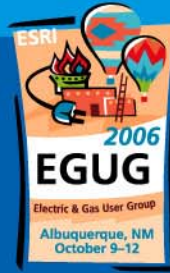
- MUST HAVE AN UNDERSTANDING OF EXISTING SYSTEMS IN THE CUSTOMER PREMISES AND THEN PROPOSE , DESIGN AND IMPLEMENT ESTABLISHED QUALITY PROCEDURES
- MUST BE IN A POSITION TO PROVIDE VALUE ADDED SERVICES NOT RESTRICTED TO SINGLE PLATFORM BUT MULTIPLE OUTPUT FORMATS

WHAT TO LOOK FOR IN AN OUTSOURCE PARTNER(CONTND.)



- MANAGEMENT STRUCTURE
 - MANAGEMENT TEAM
 - QA/QC TEAM
 - TRAINING TEAM

WHAT TO LOOK FOR IN AN OUTSOURCE PARTNER(CONTND.)

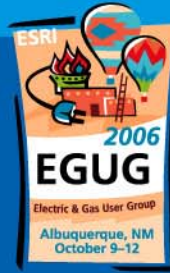


- VENDOR MUST APPOINT OFFSHORE AND ONSITE PROJECT MANAGERS WHO WILL COORDINATE WITH OFFSHORE PRODUCTION AND DEVELOPMENT TEAMS
 - PROVIDE TECHNICAL OVERSIGHT
 - TROUBLE SHOOT
 - FACILITATE EXECUTION OF THE PROJECT

BENCH STRENGTH

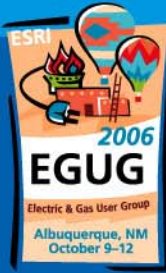
- IF THE SCOPE OF THE WORK GROWS, DOES VENDOR HAVE THE RESOURCES AND CAPABILITIES TO HANDLE THE WORK

WHAT TO LOOK FOR IN AN OUTSOURCE PARTNER(CONTND.)



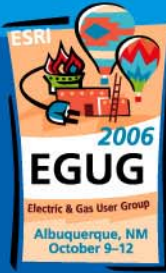
- TOOLS THAT VENDOR HAS ACCESS TO
 - TELECOMMUNICATIONS
 - BANDWIDTH
PROVIDER HAS SUFFICIENT BANDWIDTH TO CARRY VOICE AND DATA TRAFFIC
 - DESKTOP SYSTEM ACCESS
CLIENTS WITH WEB-BASED DESKTOP TOOLS HAVE EASIEST TIME TRANSITIONING TO OFFSHORE SERVICE PROVIDERS. HELPS IN TRAINING, ETC.
 - CONNECTIVITY TOOLS
QUALITY OF VOICE TRANSMISSION MUST BE THOROUGHLY TESTED WITH ANY POTENTIAL SUPPLIER

WHAT TO LOOK FOR IN AN OUTSOURCE PARTNER (CONTD.)



- SAMPLE CODE
 - ASK FOR SAMPLE CODE RELATING TO GIS WORK THEY HAVE DONE BEFORE

WHAT TO LOOK FOR IN AN OUTSOURCE PARTNER(CONTND.)

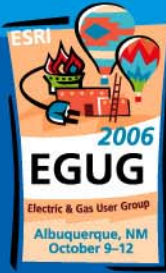


- SUPPLIER SHOULD HAVE A WELL DEFINED DEVELOPMENT PROCESS
- SECURITY & BUSINESS CONTINUITY
- CONTINGENCIES FOR POWER FAILURE AND OTHER DISASTER RECOVERY PROCESSES SHOULD ALL BE IN PLACE.

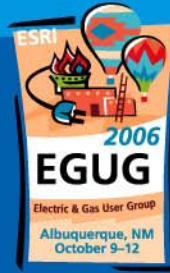
-

WHAT TO LOOK FOR IN AN OUTSOURCE PARTNER(CONTND.)

- QUALITY PROCESSES
-QA/QC PROCEDURES

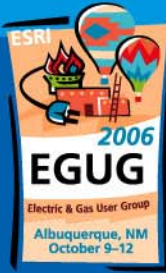


WHAT TO LOOK FOR IN AN OUTSOURCE PARTNER(CONTND.)



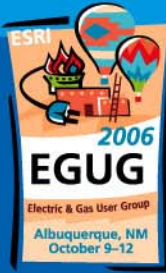
- GEOGRAPHICAL LOCATION
- POLITICAL STABILITY/MILITARY TENSION

RISK MITIGATION



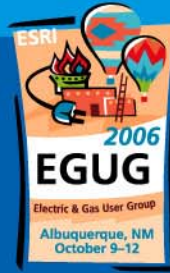
- HOW MUCH OF A RISK DO YOU WANT TO TAKE
- SPREAD THE RISK
- DO NOT JUST DEPEND ON ONE CONTRACTOR – DOES CONTRACTOR OFFER RISK MITIGATION
- IF YOU HAVE ONE PRIME CONTRACTOR MAKE SURE THAT THE PRIME CONTRACTOR HAS SEVERAL OTHER OFFSHORE CONTRACTORS
- CONTRACTORS SHOULD BE SPREAD IN DIFFERENT AREAS OF THE COUNTRY
- LIMITED EDITING RIGHTS
- MONITORING USER ACCESS CODES FOR USERS

THE MOST IMPORTANT FACTOR THAT MAKES OFFSHORING SUCCESSFUL



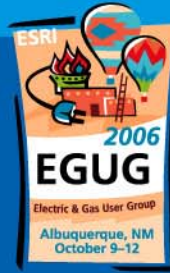
- PROJECT MANAGEMENT
 - PROJECT MANAGER SHOULD BE WELL VERSED IN BOTH CULTURES
 - BE ABLE TO COMMUNICATE EFFECTIVELY WITH THE US CLIENT AND OFFSHORE COMPANY
 - MANAGERS HANDLING OFFSHORE VENDORS NEED TO HAVE A BACKGROUND IN HUMAN RESOURCES, BUSINESS ANALYSIS, FINANCE

THE MOST IMPORTANT FACTOR THAT MAKES OFFSHORING SUCCESSFUL (CONTD.)



- CLIENT COMMITMENT TO OFFSHORE OUTSOURCING
 - PROVIDE TRAINING, MENTORING & ONGOING MANAGEMENT SUPPORT
 - INVEST TIME AND RESOURCES IN BRINGING OFFSHORE VENDOR MANAGEMENT TEAMS AND TRAINEES TO THEIR SITE FOR INTENSIVE ORIENTATIONS AND “TRAIN THE TRAINER” SESSIONS

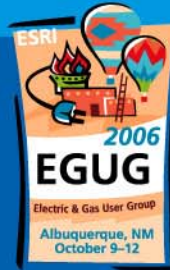
THE MOST IMPORTANT FACTOR THAT MAKES OFFSHORING SUCCESSFUL (CONTD.)



ASSIST IN PROGRAM IMPLEMENTATION

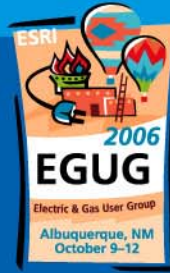
- PUT IMPLEMENTATION SUPPORT TEAMS ONSITE WITH THE VENDOR FOR PILOT LAUNCH
- MAKE SURE THAT DOMESTIC EMPLOYEE POPULATION FULLY AND THOROUGHLY UNDERSTANDS OFFSHORE MODEL
- MAKE SURE PROCESS AND METHODOLOGY IS IN PLACE
- FREQUENT MEETINGS, IF POSSIBLE, QUARTERLY SITE VISITS WITH OFFSHORE VENDOR

THE MOST IMPORTANT FACTOR THAT MAKES OFFSHORING SUCCESSFUL (CONTD.)



- OUTSOURCING COMPANY YOU CHOOSE VALUES YOUR SUCCESS AS HIGHLY AS YOU DO
- THERE IS AN ESTABLISHED ESCALATION POLICY IF YOU BECOME UNHAPPY WITH YOUR CONTACT PERSON
- CLEARLY MEASURABLE MUTUALLY AGREED UPON, METRICS AND TIMELINES EXIST

THE MOST IMPORTANT FACTOR THAT MAKES OFFSHORING SUCCESSFUL(CONTD.)



- AVAILABILITY OF TOOLS

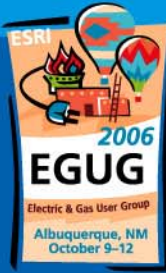
- SOFTWARE TOOLS AND PROJECT MANAGEMENT SOFTWARE SO THEY CAN BE USED BY GLOBAL TEAMS

- SUPPLY VERSION CONTROLS

- BUG TRACKING

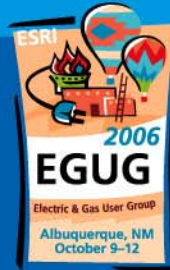
- TEAM SCHEDULING AND TESTING

THE MOST IMPORTANT FACTOR THAT MAKES OFFSHORING SUCCESSFUL(CONTD.)



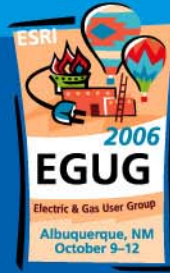
- CLEAR AND CONCISE SPECIFICATION DOCUMENTATION, REVIEW OFFSHORE PARTNERS DOCUMENTATION
- TOLL FREE NUMBERS
- CAN BE EASILY AVAILABLE
- CAN BE AVAILABLE ATLEAST UNTIL NOON U.S. TIME
- RESPONSE TIME TO PROBLEMS

THE MOST IMPORTANT FACTOR THAT MAKES OFFSHORING SUCCESSFUL (CONTD.)



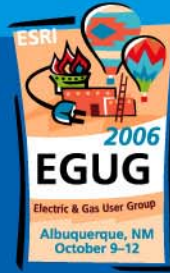
- MANAGING COMMUNICATION
 - DETAILED DEFINITION OF ROLES AND RESPONSIBILITIES
 - MEANS AND FREQUENCY OF COMMUNICATION
 - WAYS TO RESOLVE ISSUES

THE MOST IMPORTANT FACTOR THAT MAKES OFFSHORING SUCCESSFUL (CONTD.)



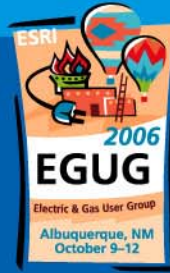
- WRITE DETAILED SPECIFICATIONS
 - DIFFERENCES IN LANGUAGE AND CULTURE CAN LEAD TO MISINTERPRETATION
 - ONSITE PERSON ACTS AS LIASION BETWEEN COMPANY'S INTERNAL STAFF AND OFFSHORE TEAM

THE MOST IMPORTANT FACTOR THAT MAKES OFFSHORING SUCCESSFUL (CONTD.)



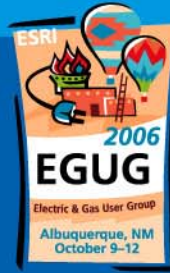
- MANAGING CHANGES
 - CREATING AND USING A CHANGE MANAGEMENT TOOL AT BOTH ENDS IS A TRUE AND TRIED SUCCESSFUL APPROACH

OTHER LITTLE THINGS THAT MATTER



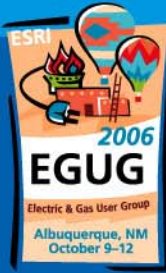
- HOLIDAYS OBSERVED IN US AND OFFSHORE COUNTRY
- SYSTEM MAINTENANCE SCHEDULE KEEPING IN MIND TIME DIFFERENCE SHOULD NOT INTERFERE WITH PRODUCTIVITY HOURS OFFSHORE
- SOFTWARE THAT US CLIENT USES TO SCAN WORK ORDERS IN SHOULD BE ROBUST . DOWNLOAD TIME FOR OFFSHORE PARTNER SHOULD BE AT A MINIMUM

OTHER LITTLE THINGS THAT MATTER(CONTD.)



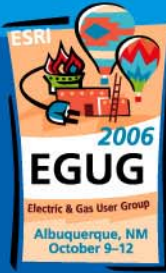
- TIME DIFFERENCE
 - TRAIN FOLKS IN THE US AND OFFSHORE HOW TO TAKE ADVANTAGE OF THE TIME DIFFERENCE

WHERE ARE THE SAVINGS



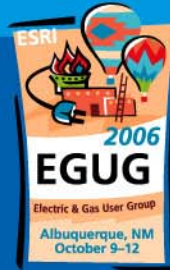
- GENERALLY IT IS REPORTED THAT 60% SAVINGS, BUT
- 10-20% GOES IN INTERACTION COSTS RESULTING IN NET SAVINGS OF 40-60% FOR OFFSHORED PROCESSES
- FOR MORE SPECIALIZED AND LESS ROUTINE APPLICATIONS, LIKE GIS, COST SAVINGS ARE MORE LIKE 30%

LABOR COST ADVANTAGE



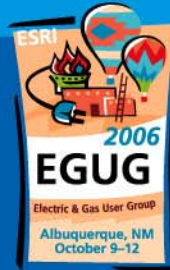
- COST OF HIGH TECH FACILITIES, TECHNOLOGY AND EQUIPMENT ARE ON PAR WITH US COSTS, LABOR ARBITRAGE IS THE LARGEST FACTOR IN OFFSHORE COST SAVINGS

MAJOR CHALLENGES ENCOUNTERED



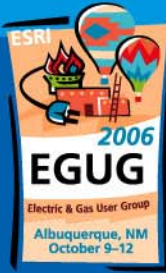
- MANAGING COMMUNICATION
- MANAGING PROJECT TIMELINE ON BUDGET
- INTEGRATING WITH INTERNAL APPLICATIONS AND PROCESSES
- MANAGING CHANGE REQUESTS AND SCOPE OF WORK
- NEGOTIATING CONTRACT TERMS
- UNDERSTANDING THE DIFFERENCES AMONG SERVICE PROVIDERS
- UNDERSTANDING AND QUANTIFYING BENEFITS
- GETTING MANAGEMENT TO AGREE TO OFFSHORING

MAJOR RISKS FOR OUTSOURCING



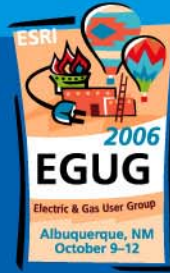
- HIGHER DEVELOPMENT OR OPERATIONAL COSTS THAN ANTICIPATED
- INABILITY TO PROVIDE AT IMPLEMENTATION THE EXPECTED SERVICE LEVELS
- EXCEEDING THE TIME ANTICIPATED FOR DEVELOPMENT OR TRANSITION
- ALLOWING TECHNICAL FAILURE TO CONTINUE
- NEGLECTING TO NAVIGATE THE INTERNAL POLITICS OF COMPANY

REALISTIC EXPECTATIONS



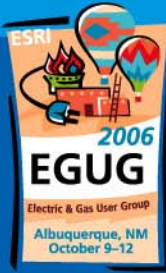
- SUBSTANTIAL UPFRONT COSTS
 - TRAVEL
- TRAINING
- ESTABLISHING INFRASTRUCTURE
- MANAGEMENT TEAM REQUIRED TO IMPLEMENT AND SUPERVISE THE PROJECT

KEY TO ACHIEVING BENEFITS OF OUTSOURCING



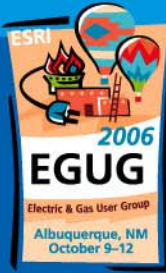
- MINIMIZE THE CONDITIONS LEADING TO FAILURE AND MAKE SURE THE ELEMENTS THAT LEAD TO SUCCESS ARE PRESENT

THE COMING OF THE ASIAN CENTURY OF THE SOFTWARE INDUSTRY



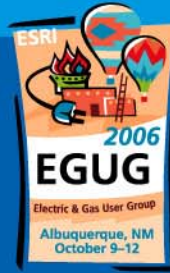
- TWO PAGODAS ALLIANCE BETWEEN CHINA AND INDIA
- INDIA CONCENTRATES ON SOFTWARE AND SERVICES
- CHINA CONCENTRATES ON HARDWARE

STRENGTHS - INDIA



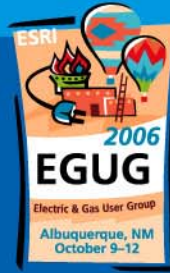
- INDIA SOARS IN TECH AND SERVICES
- HAS YOUNGER WORK FORCE
- LANGUAGE BARRIER IS MUCH LESS
- GOOD EDUCATIONAL SYSTEM
- 12 HOUR TIME ZONE DIFFERENCE WITH U.S. PROVIDES ROUND THE CLOCK COVERAGE
- FAVORABLE GOVERNMENT POLICIES

CHALLENGES - INDIA



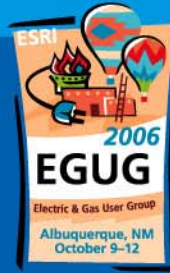
- SOME POLITICAL ISSUES WITH PAKISTAN AND CHINA
- INFRASTRUCTURE
- CULTURAL DIFFERENCES

STRENGTHS - CHINA



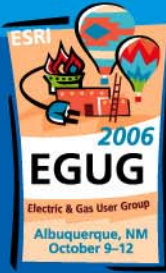
- LOWER LABOR COSTS THAN INDIA
- LARGE LABOR FORCE

CHALLENGES - CHINA



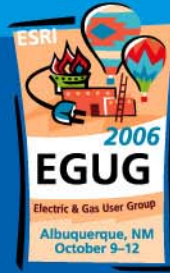
- LANGUAGE BARRIER
- LACK OF INTELLECTUAL PROPERTY RIGHTS PROTECTION
- LOW LEVEL OF INNOVATION
- LOW AFFINITY WITH WESTERN CULTURAL INFLUENCES
- WEAK CONTROLS WHEN IT COMES TO QUALITY

STRENGTHS - RUSSIA



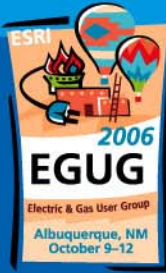
- STRONG ENGINEERING TALENT
- HIGH LEVEL THINKING
- NOT AFRAID OF TELLING YOU IF THEY DISAGREE WITH SOME OF THE SPECIFICATIONS OF A PROJECT AND SUGGESTING A BETTER WAY.
- POLITICAL CLIMATE IS STABILIZING

CHALLENGES - RUSSIA



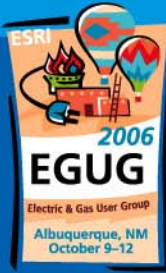
- LACKS PROJECT MANAGEMENT EXPERTISE AS COMPARED TO SOME OTHER OFFSHORE COUNTRIES
- LOWER ENGLISH SPEAKING WORK FORCE
- NEED TO INCREASE IN SIZE QUICKLY TO COMPETE WITH INDIAN COMPANIES
- COST ADVANTAGE LOWER THAN INDIA AND CHINA
- RESTRICTIONS ON TRAVEL
- WEAK BUSINESS EDUCATION
- LACK OF CONSIDERATION FOR INTELLECTUAL PROPERTY
- WEAK MARKETING BY SOFTWARE MAKERS THEMSELVES

STRENGTHS - CANADA



- LOW TURNOVER RATES
- STRONG EDUCATIONAL SYSTEM
- SERIOUS FOCUS ON QUALITY
- CULTURAL AFFINITY WITH U.S. AND WESTERN EUROPEAN COUNTRIES

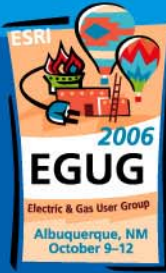
CHALLENGES - CANADA



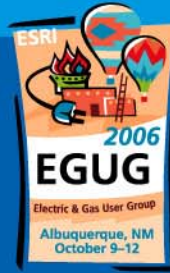
- DON'T GAIN TIME ZONE ADVANTAGES OF ASIAN COUNTRIES
- COST SAVINGS ARE NOT AS GREAT AS WITH OFFSHORE SOURCES

OTHER COUNTRIES CONSIDERED FOR OFFSHORING

- PHILIPPINES
- VIETNAM
- INDONESIA
- SINGAPORE
- MALAYSIA
- DUBAI
- IRELAND
- NEW ZEALAND
- AUSTRALIA
- HUNGARY
- POLAND
- BRAZIL
- SOUTH AMERICA

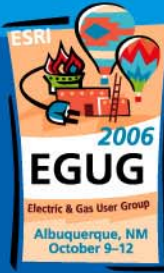


INDIA VERSUS OTHER COUNTRIES

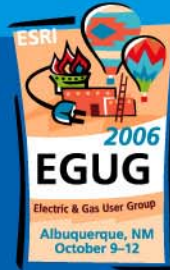


- ALL OFFER LOWER LABOR COSTS THAN U.S., BUT MOST OF THEM HAVE LANGUAGE PROBLEMS
- INDIA HAS A WELL EDUCATED ENGLISH SPEAKING LABOR FORCE
- MOST OF GIS WORKERS HAVE A FULL ENGINEERING DEGREE OR ASSOCIATE ENGINEERING DEGREE
- VAST POOL OF GRADUATES COME OUT OF INDIA EVERY YEAR
- AFFINITY WITH WESTERN CULTURE
- A LOCATION IN A FAST-GROWING, HIGH TECH REGION
- HIGH QUALITY LOW COST BANDWIDTH

HOW INDIA IS FIGHTING COMPETITION FROM CHINA AND OTHER COUNTRIES



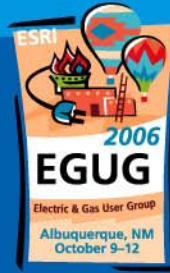
- TO TAKE ADVANTAGE OF LOWER LABOR COSTS INDIAN COMPANIES ARE PARTNERING WITH CHINA AND OTHER COUNTRIES.
- OPENING THEIR OWN OFFICES IN CHINA AND OTHER COUNTRIES TO CREATE A PRESENCE
- INDIAN COMPANIES ARE OFFERING MORE SPECIALIZED APPLICATION SERVICES AND PASSING OUT REGULAR WORK TO THEIR PARTNERS IN CHINA



IF YOU HAVE DECIDED TO
OUTSOURCE

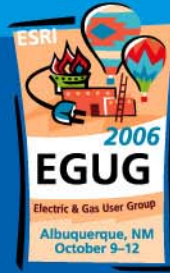
YOU WILL FIND

US COMPANIES STAND TO CAPTURE VALUE

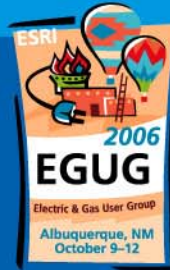


- REDUCED COSTS
- INCREASED REVENUES
- REDEPLOYMENT OF ADDITIONAL LABOR
- PREVENTS INFLATION WHICH LEADS TO INCREASED INVESTMENT IN OTHER PROJECTS
- CAN COMPETE GLOBALLY
 - MORE COMPETITIVE TO HANDLE PROJECTS IN OTHER PARTS OF THE WORLD
- USE SAVED FUNDS FOR MORE RESEARCH AND DEVELOPMENT

CONCLUSION



- OUTSOURCING OVERSEAS IS NOT A “ONE SIZE FITS ALL” SOLUTION .
- IT IS A VIABLE ALTERNATIVE THAT DESERVES ATTENTION FROM THOSE LOOKING TO IMPROVE RESULTS AND QUALITY REPRESENTATION AT A FAIR PRICE



QUESTIONS

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