



Final Report of the

2013 ITER Management Assessment

(Contract-ITER/CT/13/4300000830)

October 18, 2013

Madia & Associates, LLC

La Quinta, California

Montara, California

TABLE OF CONTENTS

EXECUTIVE SUMMARY 3

PART I. INTRODUCTION 16

PART II. ASSESSMENT PROCESS 19

PART III. FINDINGS AND OBSERVATIONS FROM THE ASSESSMENT 22

PART IV. RECOMMENDATIONS TO THE ITER COUNCIL 46

PART V. CLOSING..... 59

APPENDIX A. GLOSSARY/LIST OF ABBREVIATIONS 60

APPENDIX B. SCOPE OF WORK FOR THE 2013 MANAGEMENT ASSESSMENT 62

APPENDIX C. WORK PLAN 63

APPENDIX D. LIST OF REFERENCES (SELECTED) 68

Executive Summary

The 2013 Management Assessment (MA13) of ITER was conducted by Madia & Associates, LLC, with Dr. William J. Madia serving as the Management Assessor. He was assisted by Dr. Charles V. Shank and Mr. T.J. Glauthier. These three managers with more than 100 years of leadership experience with large scientific organizations together constituted the Management Assessment Team (MAT). They used an assessment process based on Edward Deming's classic "Plan-Do-Check-Act" continuous improvement cycle. The MAT conducted extensive reviews of ITER documentation, participated in ITER meetings, gathered comprehensive data, and observed construction status. Fully confidential interviews with all key project stakeholders allowed for candid and open discussion of many difficult issues and the identification of areas impeding ITER progress, and helped confirm the MAT's analysis and conclusions. As the Assessment advanced, it became clear that the ITER project was extremely complex and a great challenge to effectively manage. There were no simple or easy solutions that could immediately improve progress.

The documentation, site visits, interviews and analysis led the team to identify eighteen (18) Findings and Observations. Input qualified as a Finding or Observation when, collectively, there was a substantial body of evidence that supported the statement.

The MAT's positive Findings and Observations that support project performance and success include:

- **There was broad support and commitment to the success of the ITER project from all involved parties.** Based on the MAT's experience, this strong level of support and commitment has been an essential foundation required for all successful large-scale projects.
- **The project has been staffed by capable and motivated staff in a range of technical and administrative areas.** Some of the technical and management staff in the IO and the Domestic Agencies have relevant commercial and large project management experience. Also, some key administrative and support staff in the IO demonstrated competence and have relevant experience in a number of areas.
- **A number of very good "best practices" have been employed in a limited way in the project.** In particular, the MAT draws attention to the practices identified in the Directorate of Central Engineering and Plant (CEP). CEP very competently has been applying tools that are at the cutting edge in large-scale industrial construction projects. The CEP Directorate also exhibited examples of strong IO/DA collaboration. The CEP maintained a strong technical staff and an action-oriented management.
- **Positive interactions and collaborations among the DAs were notably evident.** The MAT found a number of examples where the DAs worked well together. The seven Members and their respective DAs exhibited more passion and enthusiasm for the ITER

program than was visible in the IO senior leadership. DAs often seemed to join together out of their shared vision and goal to keep the project moving forward.

- **The Unique ITER Team (UIT) concept has been a very good start for improving the communication, collaboration and interaction between the IO and the DAs.** The introduction of the UIT was widely accepted as a positive and important first step in bringing the ITER team together in a much more efficient and effective way. The Director General has received much credit for the UIT idea and worked with other IO and DA leaders in implementing the concept.

All of the interviews included some or extensive expressions of concern about ITER progress, organization and management. The Findings and Observations that the MAT believes have been difficult issues and impede ITER progress include:

- **The initial conditions established at the beginning of the ITER project - including the Joint ITER Agreement (JIA), the inadequacy of the original design, the distributed manufacturing of common components, and the use of international work rules - have created a situation that makes it very difficult or impossible to achieve progress at an optimal pace.** While these initial conditions represented serious challenges, they were not the only causes for the cost and schedule problems, and could be overcome by stronger leadership and management.
- **There has been a lack of strong project management culture inside the IO.** The IO culture appeared to be more academic or research oriented which has often led to protracted debates and impeded rapid progress. There has been too much focus on achieving organizational “harmony” instead of tangible project management results. The MAT was unable to observe a sense of urgency, a “passion” for success, a commitment to rapidly finding solutions for every problem, or an agile and nimble project organization. Too often, the culture lacked a “constructive confrontation” component between staff and management, and even between managers. As a result, many of the best ideas were never heard nor expressed and key decisions lacked ownership.
- **The MAT observed an insufficient number of personnel with large project management and industrial experience inside the IO.** As mentioned above, well qualified staff exist within the IO, however, they do not constitute the “critical mass” that is needed by the project. In addition, several otherwise well-qualified and experienced people were placed into critical positions for which they had very limited relevant experience or expertise.
- **The IO’s decision making process was ill defined and poorly implemented.** The IO lacked the capability to drive toward conclusions and achieve program implementation using compelling fact-based arguments. The overall pace of decision making inside the organization was slow and the decision making process was difficult to find and follow.

- **The quality and leadership of the Systems Engineering and Design Integration function in the IO was inadequate for carrying out this vital function.** While the MAT found broad support for strong systems engineering and design integration function within the IO, there was equally widespread concern over both the quality of the capability and the group's leadership for carrying out this critically important IO function.
- **The IO has not operated as an efficient or effective management organization.** The IO's inability to influence the DAs was a major impediment to effective and efficient management and progress. In addition, the number of signatures, project change requests, and excessive documentation is indicative of an inefficient management organization.
- **Given the importance of being a licensed nuclear facility in France, the MAT observed that the ITER project lacked a necessary strong nuclear safety culture required for future success.** Without a demonstrated and well-supported nuclear safety culture pervasive from the IO through the DAs and their contractors, ITER could fail as a nuclear project.
- **The current ITER Council-approved baseline schedule has not been realistic.** Because the IO staff has not been allowed to openly challenge the schedule, numerous examples of detrimental behaviors, demotivated staff, and cynicism were observed. Even when certain units of the IO have developed what they believe to be realistic schedules for some elements of the project, they have not been allowed to adopt them because senior management has insisted that the baseline not be changed.
- **Due to the underlying structure of the project, the IO and the DAs have often been "stalemated" and unable to make decisions.** The divergence of responsibility between the IO and DAs has contributed to the inability of either party to make decisions. Even relatively small problems have taken an inordinate amount of time and energy to solve. Serious issues were only resolved at senior levels after extensive engagement and negotiation.
- **The IO staff has not been incentivized to reduce costs or risks to the DAs, or align with the priorities of the DAs, resulting in major unresolved conflicts inside the project.** This misalignment of incentives between the IO and the DAs has inhibited effective collaboration and has impact on scope, schedule and cost.
- **Communications within the project have been generally poor.** The MAT observed numerous examples of poor or failed communications between the IO and the DAs. In addition, there were serious communications problems within the IO, vertically from the senior management down through the staff and then to the DAs, their contractors and subcontractors. As indicated above, the UIT has made some progress for improved communications.

- **The IO has too many senior managers and a very "stove-piped" structure.** Within the IO, there are 12 senior managers who have oversight of 17 Division managers, who in turn supervise 42 Section managers. This management structure has resulted in a very inefficient "span of control" with too many managers overseeing too few workers. The excessive bureaucracy has slowed everything down and created barriers to effective cooperation, communication and decision making.
- **The IO has lacked critical management tools and in most cases, ineffectively used the tools it has available.** The IO has continued to deploy ineffective performance management systems, and lacked a corrective action program that can rectify underlying deficiencies and causes.

These negative Findings and Observations have created a series of problems and challenges for the project. The MAT examined a range of options for dealing with these issues and makes the following Recommendations based upon the information analyzed, the MAT's management experience, and best professional judgment. The number of Recommendations was kept to a manageably small number. There were literally several hundred "tactical recommendations" that could have been proposed given the range of problems found, but it is more important for the IC to focus on a consolidated "critical few" that, when implemented, will lead to dramatic performance improvement. Therefore, the MAT proposes the following eleven (11) interdependent Recommendations and specific actions:

Recommendation 1. Create a Project Culture

Context. A principal conclusion from the MAT's observations is that ITER lacks a strong project culture. Progress is unacceptably slow and weighed down by a bureaucratic organization. The lack of a realistic schedule reduces the motivation to meet deadlines and make decisions in a timely manner. Communication up and down the management chain is weak. Communication among project leaders is muted and lacks intensity. Passion for completing this project on time and within budget appears to be missing. A sense of urgency is not apparent.

Action. Create a "project culture" within ITER. Projects with such a culture have a sense of excitement that can be felt in every meeting and interaction. They have a "can do" spirit that does not allow anything to stand in the way of moving forward. The project participants understand the importance of accepting a workable solution now rather than a perfect solution months later. Everyone on the team feels empowered, even compelled, to speak up and attempt to identify new and better solutions through "constructive confrontation," which is openly encouraged by management. Decisions are made in a timely manner, recognizing that decisions must be made without necessarily having all the data needed. Prudent risk management is part of a strong "project culture." Decisions that turn out to be wrong are quickly fixed. A sense of urgency drives everything. Team members sacrifice for the good of the project, often at their own expense. ITER is very far away from this kind of "project culture." It is mired in gridlock and all involved must commit to changing this now. The MAT recommends the following specific actions/steps to create a "project culture":

- Identify and attract new project leadership with experience in managing large projects, a passion for success, and sensitivity to the international nature of ITER.
- Instruct senior IO leadership to consciously support an atmosphere of open, constructive engagement and a bias for action in senior management meetings and throughout the IO operation.
- Engage project management consultants from industry to evaluate the project and establish metrics that measure the state of the “project culture.” Continue to evaluate the “project culture” until the IC observes a renewed passion in the IO.
- Hold the project leadership accountable for progress and improvement of “project culture” metrics.

Recommendation 2. Accelerate the Director General Transition

Context. Leadership of the ITER project is very complex and difficult. The multiplicity of stakeholders and conflicting perspectives and understanding of the project’s initial conditions add to the management challenge. The project is in a malaise and could drift out of control. The current leadership is not meeting the challenge and it is imperative that ITER move with dispatch to address this problem. DG Motojima is coming to the end of his term. The project is currently at a critical stage as it moves into Tokamak construction. Time is of the essence to get this project on track.

Action. Begin the search for the next DG as soon as practical. The ITER project is facing serious issues that need to be addressed now. The project is without an achievable baseline schedule, the leadership team is weak (often with good people in the wrong jobs), key decisions are not being made, and most importantly, the project team lacks a sense of urgency. ITER’s next DG must have a set of leadership qualities that will “lead the way” to the project culture discussed above. The IC should immediately conduct an appropriate search for a new DG with the requisite skills and appoint this new leader as soon as practical. The next DG must be an inspirational leader and manager who will get the most out of the IO staff; possess exceptional communications skills; have strong, industrial large-project management experience to help with the transition from design to construction and assembly; and be able to find solutions among the IO and DAs by asserting “competence-based authority.”

Recommendation 3. Hold the Director General Accountable for Resolving Conflicts

Context. It is not surprising that conflicts arise among the stakeholders of the ITER project given the diversity of stakeholders. Conflict is unavoidable; what is avoidable is to let these conflicts paralyze the project. In the ITER project, conflicts can remain unresolved for months or years. The IC must find a mechanism to overcome these obstacles in order to resolve the “one year delay for each year of the project” problem. This problem will continue until a workable conflict resolution mechanism is found. Far too many actions are blocked because no

one has the ability to move the project forward. The IC must find a way to break gridlock or face cost and schedule impacts of incalculable proportions.

Action. Hold the DG accountable for resolving conflicts. The MAT suggests that the IC work with the DG to create a mechanism for rapid escalation of conflict resolution to the IC when it is not possible for the DG to bring conflicts to resolution. The MAT realizes a solution to resolving conflicts is not easy. This project is a partnership and no individual is empowered to make all decisions. The MAT recommends the following specific actions:

- The IC should hold the DG accountable for the resolution of conflicts. The DG should attempt to resolve conflicts using authority-based on his leadership abilities, command of the facts, competence and skill.
- If the DG's conflict resolution approach is not successful, the DG and IC should develop a mechanism whereby the DG can rapidly escalate the problem to the IC where a decision can be made quickly, even for situations in which the IC cannot act with 100% consensus on the path forward.

Recommendation 4. Reduce the number of senior managers in the IO

Context. There is a natural tendency for big international programs to take on large numbers of staff, including political appointees, and to become bureaucratic. ITER has fallen into this pattern. There are too many managers, a stove-piped organization, and persistent delays in communications and decision making. This is especially serious at a time when ITER urgently needs to build confidence that it can complete the design, construct buildings and infrastructure, and move swiftly toward machine assembly.

Action. Reduce the number of senior managers in the IO and move more authority to act down to the lowest technically competent level. ITER must shed its bureaucratic layers and become a lean, dynamic organization. Employees at all levels must be empowered to make decisions and to take action in order to keep the project moving forward. They need to have easy access to senior management when needed, and information must flow easily up and down the organization. "Constructive confrontation" must be encouraged. The MAT recommends streamlining the IO to significantly reduce the number of senior managers at the DDG and Director level to half or less of the current number. In parallel, the IO should streamline the division and section structure and move formal authority for design, change orders, hiring and other decisions down to lower levels in the organization. The MAT recommends several specific actions:

- The new DG, in consultation with the IC, should revise the organizational structure to better match the construction and upcoming assembly phases of the project and reduce the number of senior managers at the DDG and Director level to no more than four to six, down from the present level of 12.

- The IO should re-examine the division and section structure to achieve higher spans of control with clear lines of authority and responsibility. Eliminate or combine sections that only have a few staff.
- The IO should formally move decision making authority down to the lowest technically competent levels in the organization.
- Document processing for such items as design approvals, PCR approvals, hiring, etc., should be revised.
- Leaders of the new organizational structure should be selected purely on the basis of expertise, without indirect intervention, and when appointed, should transfer, reassign, or dismiss staff that are not competent in their positions in the new structure.

Recommendation 5. Strengthen Systems Engineering

Context. The ITER project has a very complex supply chain. In some cases, different DAs are supplying the same component. Components from all over the world must fit together to create an operating facility. Systems engineering and design integration must be led by a person that has both experience and large-project systems expertise. Mistakes in systems engineering made now will create very serious problems later on. The Spooler/Despooler example is just the “tip of the iceberg.” Virtually every stakeholder in the project expressed extreme concern and frustration with the current systems engineering and integration organization. The prevalent view is that the current organization, Central Integration and Engineering (CIE), is not performing at the level the project requires. CIE is viewed as a “paper-pushing” organization, one that is described as focused more on process than engineering and is slow and bureaucratic. CIE does not have adequate skills and staff to perform its task.

Action. Greatly strengthen the IO’s systems engineering and design integration capability and leadership. Based on its independent analysis, the MAT shares the view universally expressed during interviews that the ITER project needs a strong, well-functioning systems engineering and design integration function in the IO. The complexity of the project and the global supply chain dictate the need for this vital capability to provide “systems thinking” for ITER. A new CIE leader must be an excellent communicator and have a strong systems engineering background. The new leader should have the technical savvy to be seen as someone “on the shop floor” who understands from personal engineering experience how the interfaces are intended to work. He should be charged to increase the effectiveness of this function. The MAT recommends the following specific actions:

- The Director General should conduct an appropriate search and appoint a new leader for CIE who has highly effective communication skills and extensive engineering experience in managing and integrating large projects.

- Under new leadership, CIE, with other components of the IO and the DAs, should review and restructure the organization to deliver systems engineering efficiently and effectively.
- With the DG, CIE leadership should review the adequacy of CIE resources and staff, and strengthen the organization to better serve the many critical ITER systems.

Recommendation 6. Instill a Nuclear Safety Culture

Context. The global fusion community resides mostly in research laboratories and academia and has yet to experience the rigorous and challenging environment of the regulated nuclear facility world. Compliance with valid requirements of the regulator is not negotiable and more importantly, a “forward-leaning” approach pays substantial dividends. The ITER nuclear safety culture should lead the way for future fusion energy projects in changing the publics’ mind about nuclear technology. The MAT observed serious deficiencies in the systematic identification and resolution of nuclear safety-related issues.

Action. Instill a strong nuclear safety culture immediately. The IO has very strong nuclear safety and licensing staff but it is not clear that other parts of the IO and some DAs fully appreciate the need to meet French nuclear safety standards. Ignoring safety warnings, overlooking licensing requirements, and a general lack of appreciation for nuclear safety issues is a well-proven formula for getting nuclear projects shut down or dramatically delayed by the regulator. The MAT recommends the following actions:

- The IO must conduct an immediate and comprehensive review of its nuclear safety issue identification, reporting, tracking, and resolution system and remedy any shortcomings.
- Create an independent Nuclear Safety and Licensing Advisory Board, familiar with French nuclear safety standards, which will report to the IC to monitor, guide and benchmark the ITER project.
- Conduct a new Nuclear Safety Culture Survey and evaluate any positive or negative trends since the 2010 survey.
- Require a strong nuclear safety “tone at the top” from the next DG and include nuclear safety performance measures in the goals of all senior managers with responsibilities affecting nuclear safety.
- Initiate a nuclear safety culture awareness program across the IO and DAs to improve the understanding of nuclear safety culture opportunities and shortcomings.
- IO senior management should work with the Nuclear Safety, Licensing and Environmental Protection Division to improve their communications, relationships, and outreach toward other stakeholders.

Recommendation 7. Develop a Realistic ITER Project Schedule

Context. No project or its leadership can maintain credibility if it continually denies reality and repeats statements that are widely disavowed, even by its own staff. ITER's schedule has slipped so consistently year after year that almost no one, including the MAT, believes the announced dates for first plasma (FP) or other key milestones will be met.

Action. Develop, and then hold to, an "achievable and realistic schedule" for ITER as soon as possible. It is natural for there to be schedule challenges in a project as large and complex as ITER. The measure of the project's effectiveness is how decisively it deals with those challenges. In order to apply modern project management methods to keep ITER advancing at the desired pace, the IO with new, qualified staff that has proper experience in developing large, complex project schedules must lead a credible schedule revision process that involves all parties and is free from politics and "wishful thinking." The resulting credible schedule with a database that supports the estimated duration of activities and the needed resources must be one that instills a high degree of confidence in its success (the MAT recommends that an 80% confidence level be adopted as the new standard), but still recognizes risks and uncertainty and will deal with those quickly and openly when they arise. The IO, the DAs and industry contractors must work together so that they jointly "own" the final schedule and the commensurate financial resources required to achieve it. One way to develop the schedule in a timely manner should be to have it accomplished in stages, with a near-term credible schedule done to support the critical near-term activities. The MAT recommends the following specific actions:

- The IO, using staff experienced in scheduling and working with DAs and contractors armed with accurate and realistic information, leads a process to build a "management-level" schedule of the project as soon as possible that is "achievable and realistic" to an 80% level of confidence.
- The new schedule, which could be prepared in stages, must be adopted by all parties in ITER as the new, official baseline for all planning, scheduling, financing and management actions.
- The new revised schedule must be fully transparent and made widely available to all interested parties, including Members and their government sponsors, DAs, and contractors.
- Incorporate the new schedule into the change control and other systems within the ITER project.
- Going forward, the IC and its Members must hold each other accountable for delivering on the new, realistic schedule.

Recommendation 8. Align IO and DA Interests

Context. Large, multiparty projects require trust and confidence among the parties in order to succeed. The relationships between the DAs and the IO are not healthy and inhibit effective collaboration. Communication, especially at senior levels, is formal and strained. Agreements are often hindered by perceptions that each side is favoring its own interests in negotiations rather than focusing on the best interests of the ITER program overall.

Action. **Align the interests of the IO staff with the DAs.** In a successful ITER project, one should be able to witness the IO staff actively collaborating with the DAs and their contractors to remove roadblocks and find ways for the DAs to keep work on schedule and costs down. The IO staff would realize that the overall success of the project is maximized by accelerating the pace at which system components get built, delivered to the site, and assembled into the final infrastructure and Tokamak. In that culture, the IO staff would see their success as dependent upon the DAs' success. That has not been the case to date. The MAT recommends the following specific actions:

- The IO adopt an expanded use of the Integrated Project Teams, or "IPTs." To successfully achieve this teamwork collaboration, a lessons-learned team should be convened to avoid the pitfalls of the previous IPT approach.
- The project should look for a way to rotate staff between the DAs and the IO in order to achieve better understanding and collaboration among the parties. These might be developmental or temporary assignments that fall outside of the normal IO employment contracting mechanisms.
- The IO should examine whether it is possible to incorporate stronger incentives into the IO personnel evaluation and compensation system that are tied to helping the DAs achieve their goals.

Recommendation 9. Simplify and Reduce the IO Bureaucracy

Context. World-class organizations can achieve missions once thought nearly impossible, in part by deploying highly efficient and effective business systems and by empowering their people with wide-ranging freedom to act, open communications, and a bias for action. The IO has none of these characteristics and appears to be mired down in its own bureaucracy.

Action. **Implement a comprehensive process simplification and reduction-in-bureaucracy program.** The IC should challenge the IO to become the most efficient large project organization in the world. To enable the leaner, agile IO organization to work quickly, collaboratively, and effectively, many of the current time consuming, bureaucratic processes must go. Decisions should be faster, fewer signatures should be needed, hiring should be delegated, and meetings should focus on "constructive confrontation" aimed at clear results and actions. The MAT recommends an IO process improvement initiative be undertaken

immediately, including IO process owners as well as IO, DA, contractor process users, and outside experts who can lead a benchmarking exercise.

- The IC, together with the IO and the DAs, should embrace a goal of ITER becoming the most efficient large project organization in the world.
- The IO should immediately launch a bureaucracy reduction and streamlining initiative to simplify decision making processes, approvals, communications, hiring, etc.
- The streamlining review should draw on the expertise of outside experts in management processes, especially in major international construction projects, who can benchmark the IO processes against best practices in large construction projects around the world.
- The ITER project, including the IO and the DAs, should adopt specific goals for efficiency based upon the benchmarking process and expert judgment from the IO staff, the DAs, and the contractors.

Recommendation 10. Use Human Resources Systems and Tools as a Strategic Asset

Context. In the final analysis, all organizations succeed or fail based on people. The IO should aspire to be the “employer of choice” for large-scale projects, using modern tools to attract, motivate and retain the world’s top talent, and efficiently remove underperforming staff. Management is not strategically using the IO’s Human Resources organization and the tools available to it.

Action. Use human resources systems and tools as a strategic asset for performance improvement and change. The ITER staff is the future of the project and at this time when ITER is undergoing a transition from mostly design to on-site construction and assembly, the IO should undertake a major set of improvements to its Human Resources system and approach. As the world’s leading fusion energy project, ITER should become the magnet for bright, early- and mid-career scientists and engineers who see their future in the field of fusion energy. Elements of an ITER HR strategy should include: an improved recruitment program and a strengthened Performance Management System. Underperforming staff should be encouraged to leave the organization, and succession planning should begin. A campaign to attract and retain more women professionals should also begin. The MAT recommends the following actions:

- The IO should begin an aggressive recruitment program for early- and mid-career staff to help improve the “project culture,” overcome bureaucracy, and seek professional advancement.
- Strengthen the Performance Management System by training all managers on how to set performance goals and targets, discuss performance expectations with their staff,

and deliver constructive performance feedback (including better use of the probationary period).

- A formal succession planning activity should be conducted and maintained for all key technical, administrative and management positions.
- Direct the Human Resources Division to set specific performance achievement targets for the number of Level 1-5 ratings that can be given for each organizational unit as a method to force managers to deliver difficult messages to staff.
- Within the limitations of the IO's adherence to international employment standards, "push the envelope" to encourage managers and staff who are underperforming to leave the organization.
- Begin a focused campaign to attract, motivate and retain a much greater number of women in professional positions, including designing a specialized IO manager development program to give women the training and tools necessary for advancement. In order for the fusion community to prosper and grow, it must take advantage of all the available talent.

Recommendation 11. Improve Advisory Assessment Responsiveness

Context. Over the years, the ITER Council has been provided with a large number of thoughtful recommendations from high quality advisory individuals and committees. But the IC's current consensus mode of operations causes it to avoid or take a very long time to address controversial or difficult decisions. If the IC continues to operate in this manner, the ITER project will undoubtedly continue to experience long delays and cost increases.

Action. Improve the follow up and responsiveness to Management Assessments and other advisory inputs. The ITER Council should begin to operate more like a "Board of Directors" that takes action even when there is not a consensus among the Members. IC meetings need to address the projects' most difficult challenges, and the Members need to engage in candid, open dialogue over the issues, then decide on a path forward and hold the IO, DAs, and each other accountable for results. Therefore, the MAT recommends the following specific actions:

- The IC should begin to think of itself more as a "Board of Directors" that deals with critical issues in a more open manner, resulting in meetings that address upcoming difficult decisions with active debate on the pros and cons of the alternatives.
- In order to achieve higher levels of effectiveness, the IC must reprogram the Contact Person Working Group (CPWG, also known as the Council Preparatory Working Group) and instruct them to place controversial, difficult strategic issues on meeting agendas.
- Upon receipt of the final report and presentation of the MA13 at IC-13, the Management Assessment Steering Committee (MASC) and IC should work to schedule a

meeting that addresses and debates the recommendations and develop an action plan with periodic progress review.

- The IC should set a goal of reducing the amount of time the IO staff spends on advisory committee matters by a factor of two to improve project performance.

These eleven (11) recommendations represent a collective set of actions that need to be taken together. They are highly interconnected and all are required to have the full, intended impact on performance. By only acting on a few, the project will not achieve significant improvement over the next two years.