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February 16, 2009

South Dakota Board of Minerals and Environment
c/o Mr. Eric Holm and Ms. Roberta Fivecoate
Minerals and Mining Program
Department of Environment and Natural Resources
523 East Capitol Avenue
Pierre, South Dakota 57501-3182

RECEIVED
FEB 19 2009
MINERALS & MINING PROGRAM

RE: Special, Exceptional, Critical, or Unique Lands Determination
Pending Application by Powertech (USA), Inc.

Dear Board of Minerals and Environment:

This letter is presented in opposition to Powertech (USA), Inc.'s request for dismissal of Nominating Petitions presented by the Oglala Sioux Tribe, Charmaine White Face, Defenders of the Black Hills, and Debra White Plume in the above matter. Please accept this letter as testimony and evidence at your consolidated hearing to be held on February 19, 2009.

It is my professional opinion, as a specialist in Environmental Policy, that the Nominating Petitions listed above should be given the greatest deference for reasons that I outline below. Powertech's proposed in situ leach mining project would cause substantial and irreversible damage to the nominated lands. These lands include significant archeological, wildlife, cultural, historic, and other resources that clearly fit within South Dakota statute's definition of "special, exceptional, critical or unique" lands. South Dakota statute requires that only one of these characteristics, listed in SDCL 45-6B-33.3, be present in order for lands to be so designated.

The nominated lands could not be fully restored if mining took place. In situ mining has significant surface and subsurface impacts, and the full extent of this project is not clear. By their nature, uranium exploration, mining, and processing emit radioactive materials to the environment, including not only uranium, but also its air- and water-borne byproducts. The inspection report indicates that heavy metals would also be disturbed underground and brought to the surface. These materials can be spread by both wind and water and would emit radiation for the foreseeable future. Any disturbance of the numerous historic, archeological, and cultural resources at the proposed mining site cannot be mitigated.

Because these resources could not be restored after mining, all resources must be adequately identified and evaluated before any further activity takes place on the nominated lands. Sites have been identified that may be eligible for the National

Register of Historical Places. Augustana College's survey indicates that some sites may be unique. The Nominating Petitions provide additional information on cultural and historic resources that have not been fully identified. There may well be resources that simply should not be disturbed.

Given this situation, it is alarming that the DENR's inspection report indicates that mining could be allowed to begin before a complete evaluation is conducted.¹ The preliminary information that is currently available indicates that further study is needed before any formal decision could possibly be made.

In addition to the lack of complete information, it is significant that arid areas are very slow to recover from any disturbance, placing these lands within the statute's definition of "special, exceptional, critical, or unique" lands. The South Dakota State Historical Society mentions the area's high level of erosion. This would make restoration of even basic flora difficult, if it was possible.

The presence of erosion also indicates that contaminants are likely to spread beyond where they are initially brought to the surface. This would cause negative impacts to additional resources. And as DENR representatives noted in the inspection report, there would be additional concerns if land application was used to dispose of mining wastewater.

Underground water resources associated with the nominated lands are also a concern, as they impact a broad area. The in situ leach mining process works by intentionally releasing contaminants into aquifers. Incidents of horizontal contamination ("excursions") are typical of in situ leach mining operations. Excursions are the norm, not the exception.² If mining was allowed to proceed, there could be significant negative economic and health impacts, as the area's subsurface water is necessary to livestock operations and human occupation.

In addition, vertical leaks among water bodies have been documented in the immediate area.³ These vertical leaks increase the likelihood that in situ mining, which places an aquifer under substantial pressure, could contaminate more than one aquifer in the southern Black Hills. Thus the resources impacted could be quite extensive. Additional evaluation is needed.

The impacts on special, exceptional, critical, or unique lands could be larger than the DENR estimates in its inspection report on this matter. The report says that the proposed in situ mining operation would have a ten to fifteen year life.⁴ The experience of the Wyoming Department of Environmental Quality (DEQ) at the Smith Ranch-

¹ South Dakota Department of Environment and Natural Resources. December 17, 2008. *Special, Exceptional, Critical, or Unique Inspection: Powertech (USA), Inc.*, page 8.

² Lists of excursions at operating in situ leach facilities can be found at <http://www.wise-uranium.org/umopwy.html#CHRISVIOL>

³ J. M. Boggs and A. M. Jenkins. 1980. *Analysis of Aquifer Tests Conducted at the Proposed Burdock Uranium Mine Site*. Tennessee Valley Authority. For additional information on the commonality of vertical leaks, see W. P. Staub, et al. 1986. *An Analysis of Excursions at Selected In Situ Uranium Mines in Wyoming and Texas*.

⁴ See above: South Dakota Department of Environment and Natural Resources. 2008, page 2.

Highland project, as of March 2008, is shown in Attachment A. The DEQ said that restoration of just one wellfield had been ongoing for ten years, despite estimates that it would take 3 to 5 years. In 20 years of operation at the Smith Ranch-Highland project, only two wellfields had been restored. This information relates to current mining technology. In light of this, a longer timeframe should be taken into consideration when estimating the likely impacts on special, exceptional, critical or unique lands and their associated resources.

Another reason that mining's impacts on the nominated lands may be underestimated is the presence of mining wastes, which are typically under-played by the applicant. I have attached photos labeled "In Situ Mining Above Ground" and "Kingsville Dome In Situ Site, TX." which show piles of wastes that are the result of in situ well drilling (Attachments B and C). These wastes are, of course, exposed to the elements and can be spread beyond the mine site by wind or water.

A third photo, labeled "Trevino In Situ Site Hebbronville, TX.," (Attachment D) also shows the scale of disturbance from in situ operations. This photo includes holding ponds and shows seepage apparently coming out of those ponds. It is not uncommon for ponds associated with in situ mine projects to leak.⁵ There have also been catastrophic failures of mine waste retention dams, as you are probably aware from both recent news stories and South Dakota's history.

The surface impacts of the Smith Ranch-Highland project in Wyoming are shown in Attachments E, F, and G, which include:

- A satellite photo of the site, showing the extent of the disturbance created by mining activities;
- An photo of numerous wellheads, which are surrounded by disturbed and bare ground; and
- A photo illustrating the combined impacts of wellheads and traffic.

As these photos show, the disturbances from in situ mining are extensive enough that they cannot be mitigated, and they would be devastating to the nominated lands. These lands need to be protected.

There are additional examples of impacts on the nominated lands that could not be mitigated. These include recent surface water and groundwater contamination at the Smith Ranch-Highland mine, which are detailed in Attachment A. The Wyoming DEQ reports over 80 spills, "in addition to numerous pond leaks, well casing failures and excursions" at the mine.

Clearly, the damage to the nominated lands and their associated resources could not be mitigated in any meaningful way. The Wyoming DEQ's information on a modern, currently-operating in situ leach mine should serve as a cautionary note. It suggests that full information on the nominated lands must be gathered and that the full

⁵ Some examples at operating in situ leach facilities, as well as information on other types of leaks and spills, can be found at <http://www.wise-uranium.org/umopwy.html#CHRISVIOL>

implications of these Nominations should be carefully considered before any further action is taken or any further activity is allowed on the proposed mine site.

There is an additional concern. The applicant's failure to involve Native Americans, who hold this area sacred, indicates a lack of thoroughness. Native nations have a well-known stake in the Black Hills and surrounding lands. The Oglala and other Lakota (Sioux), in particular, clearly have extensive information on cultural, archeological, and historic resources, as indicated in the Nominating Petitions.

A complete analysis of the area's special, exceptional, critical, or unique lands obviously includes full consultation and active participation by those who have the longest-term information on the area and its resources.

Various documents mention an MOA, which appears to be directly relevant to this proceeding. I have been unable to find a copy on DENR's webpage on this matter. I hereby request a copy of the MOA, and I request that it be posted on the DENR's webpage with the other materials relevant to this proceeding. Until all interested parties have had the opportunity to provide input on the MOA and its adequacy, this proceeding should be halted. From the information given in the Nominating Petitions, this agreement appears to be non-binding. Based on long experience in environmental policy and with the uranium industry, it is my opinion that "gentlemen's agreements" have no place in the regulatory process.

My final concern is the applicant's response to Eric Holm, Natural Resources Project Engineer, in a letter dated October 7, 2008. At the end of this letter, the company was asked if it "is planning on adding any additional areas to the proposed mine permit boundary." The company replies "Powertech has no plans *at this time* to include additional lands within the proposed permit area." [italics added]

This statement is not clear and may indicate only that a formal plan has not been completed. However, the evidence suggests that discussions or preliminary actions may be underway that would expand the mine permit boundary. The company has acquired additional property in the area in the past two months, according to its "Management Discussion and Analysis" issued on January 22, 2009. This has occurred since the October letter was written, and additional information should be pursued.⁶

The applicant should be required to submit information on all lands that its operation might impact. Without full information on the company's long-term aspirations – not just its formal plans as of October – the impacts on special, exceptional, critical or unique lands cannot be properly evaluated.


From the information that is available, it is my opinion that the proposed mine site includes special, exceptional, critical, or unique lands. However, full information should be gathered and evaluated to insure that all the evidence has been considered. The land is clearly ecologically fragile, and it would be impossible to mitigate several of the

⁶ Attachment H shows the first two pages of this document, with the relevant discussion on page two. Full text available upon request.

types of resources that are under consideration. The concerns raised in the Nominating Petitions and all testimony should be addressed at this stage of the proceedings and before any further activity is allowed to take place on the proposed mining or processing sites.

If you have any questions, please feel free to contact me.

Sincerely,


Lillias Jones Jarding, Ph.D.



ATTACHMENT A

Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

March 10, 2008

CERTIFIED MAIL, RETURN RECEIPT REQUESTED #7005 1820 0005 1478 8828

RECEIVED
FEB 19 2009
MINERALS & MINING PROGRAM

Mr. John McCarthy
Power Resources, Inc.
P.O. Box 1210
Glenrock WY 82637

RE: Insitu Uranium Permits 603 and 633, Notice of Violation, Docket No. 4231-08

Dear Mr. McCarthy:

Enclosed you will find a Notice of Violation issued under the provisions of W.S. § 35-11-415(a) and (b)(ii). The Notice of Violation is based on the investigation conducted Mr. Mark Moxley during the fall of 2007. The investigation found that PRI failed to conduct concurrent reclamation which is a violation of Chapter 3, Section 2(k)(i)(D), and that PRI failed to follow the approved permits.

The Wyoming Department of Environmental Quality/Land Quality Division (LQD) is attempting to resolve this issue without further enforcement action, and requires that you contact Mr. Donald R. McKenzie, LQD Administrator at 307-777-7046 within fifteen (15) days of receipt of this letter to schedule a meeting to resolve this enforcement action. Should resolution of this enforcement action be reached as a result of this meeting, a Settlement Agreement including a penalty assessment will be signed by both parties.

Respectfully,

[Signature of John V. Corra]
John V. Corra
Director
Department of Environmental Quality

[Signature of Donald R. McKenzie]
Donald R. McKenzie
Administrator
Land Quality Division

Enclosures: Notice of Violation
Investigation Report

cc: Lowell Spackman, District I w/attachments
Mark Moxley, District II w/attachments
Docket # 4231-08 w/attachments
Doug Mandeville, NRC w/attachments

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002 • http://deq.state.wy.us

ADMIN/OUTREACH (307) 777-7758 FAX 777-3610
ABANDONED MINES (307) 777-6145 FAX 777-6462
AIR QUALITY (307) 777-7391 FAX 777-5616
INDUSTRIAL SITING (307) 777-7368 FAX 777-6937
LAND QUALITY (307) 777-7756 FAX 777-5864
SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973
WATER QUALITY (307) 777-7781 FAX 777-5973



DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE OF WYOMING

NOTICE OF VIOLATION

RECEIVED
FEB 19 2009
MINERALS & MINING PROGRAM

IN THE MATTER OF THE NOTICE OF
VIOLATION ISSUED TO
POWER RESOURCES, INC.

DOCKET NO. 4231-08

P.O. BOX 1219

GLENROCK, WY 82637

Re: Insitu Uranium Operation, Permit #603

Re: Insitu Uranium Operation, Permit #633

NOTICE

NOTICE IS HEREBY GIVEN THAT:

1. Notice of Violation is being sent to you pursuant to W.S. §35-11-701(c) which requires that a written notice shall be issued in the case of failure to correct or remedy an alleged violation specifying the provision of the act, rule, regulation, standard, permit, license, or variance alleged to be violated.
2. As a result of Land Quality Division (LQD) concerns over the slow pace of groundwater restoration of wellfields at Power Resources, Inc. Permits 603 and 633 Insitu Uranium Mine, an investigation was conducted of the mine and reclamation plans in the approved permits, plus information provided in annual reports. This investigation was conducted by LQD staff during October and November of 2007. In addition to the violations cited below, LQD identified serious deficiencies with both permits. The plans contained in the permit documents are dated and incomplete in numerous ways: spill detection, reporting, and follow-up protocols are not defined in the permit; groundwater restoration procedures, necessary facilities, and time schedules for restoration must be thoroughly described; waste disposal facilities and processes must be described for all waste streams; all critical process installations need thorough construction details and specifications; and topsoil protection procedures are not adequately defined. As a consequence of the inadequacies of the permits, both operations are seriously under-bonded.
3. The investigation found that PRI failed to conduct concurrent reclamation which is a violation of Chapter 3, Section 2(k)(i)(D) requiring concurrent reclamation; and that PRI failed to follow the approved permits, which is a violation of W.S. §35-11-415(a). The following lists the specific violations:

Permit 603

- a. Wellfield C was in production for approximately ten years. The approved Mine Plan states, "Once a wellfield is installed it takes approximately one to three years to recover the leachable uranium from a production area." Extending the production time period has become a routine practice and is not in compliance with the approved permit or the requirement for concurrent reclamation.
- b. In addition to the production phase, Wellfield C has now been in restoration for ten years. The 2007 Annual Report states that the ground water quality is similar to "end of mining" wellfield conditions. The permit states that restoration and stability are estimated to take approximately five years. This restoration delay is not in compliance with the approved permit or the requirement for concurrent reclamation.
- c. Wellfield E has removed 100% of the leachable reserves, and in recent years wellfield production has slowed to maintenance levels. This rate of production delays completion of mining and restoration of this wellfield

unit. This is not in compliance with the approved permit, and is a violation of Chapter 2, Section 2(b)(ii) which requires coordination of the Mine and Reclamation Plans to facilitate orderly development and reclamation.

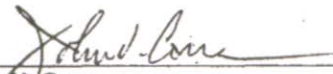
- d. The timetable listing the schedule of mining-related activities in the permit (Figure A, page OP-3A) and the timetable provided in the 2007 annual report both indicate that PRI is not in compliance with their restoration schedules for Wellfields C, D, and E. The schedule shows that Wellfield C should be decommissioning instead of in restoration, and that Wellfields D and E should be in restoration instead of production.

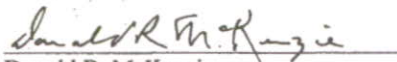
Permit 633

- a. The permit indicates that "An updated schedule will be supplied with the annual report if the mining or restoration schedule varies from Table 3-1." The timetable commitments in the permit are not consistent with wellfield status. Therefore, the table in the annual report is the schedule that PRI is committed to for wellfield status. Based on this table, PRI is not in compliance with their restoration schedules for Wellfields 2, 3, and 4/4A. The annual report text indicates that Wellfield 2 will continue to be in production, while the annual report schedule referred to in the permit shows that it will be in restoration in 2008. Wellfields 3 and 4/4a should be in restoration instead of production.
- b. The permit states that it generally takes "three years for uranium production, and three years for aquifer restoration." Actual times for wellfield production and restoration are, thus far, 2-3 times longer than permit commitments.
4. Wyoming Statute §35-11-901(a) provides that any person who violates any provision of the Environmental Quality Act or any rule, standard, permit, license or variance adopted hereunder is liable to a penalty of ten thousand dollars (\$10,000.00) for each day of violation, which penalty may be recovered in a civil action brought by the Attorney General in the name of the People of the State of Wyoming.

NOTHING IN THIS NOTICE shall be interpreted to in any way, limit or contravene any other remedy available under the Environmental Quality Act, nor shall this Order be interpreted as being a condition precedent to any other enforcement action.

SIGNED this 7th day of March, 2008


John V. Corra
Director
Department of Environmental Quality


Donald R. McKenzie
Administrator
Land Quality Division

Please direct all inquiries regarding this Notice of Violation to Mr. Donald R. McKenzie, Administrator, Land Quality Division, Wyoming Department of Environmental Quality, 122 West 25th Street, Cheyenne, WY 82002. Telephone No. (307) 777-7046.

ec: Lowell Spackman, District I
Mark Moxley, District II
Docket # 4231-08
Doug Mandeville, NRC

Report of Investigation

Operator : Power Resources, Inc.
Facility : Smith Ranch - Highland Uranium Project
Mine Permit #603 (Highland) and #633 (Smith Ranch)
Prepared By : Mark Moxley, LQD District 2 Supervisor
Date : November 21, 2007

Background:

This investigation was conducted at the request of Rick Chancellor, LQD Administrator, in response to concerns over recent spills and the slow pace of groundwater restoration at the Smith Ranch-Highland ISL operation. PRI's operation is located in Converse county in LQD District 1. An investigator was brought in from LQD District 2 with the intention of having a fresh pair of eyes look at the operation. The investigation was intended to identify and focus on "big picture" issues, not specific details. The investigation proceeded as follows:

- Review of permit documents and annual reports
- Interviews with LQD District 1 staff
- Site tour and interviews with PRI staff
- Interviews with LQD District 3 staff
- Follow-up reviews and discussions

PRI began producing in 1988 and is currently the only significant producer of uranium in Wyoming. They are currently producing at capacity levels (2 million pounds of yellow-cake in 2006 and they are expecting similar production in 2007). PRI has applied for a mine permit amendment to add the Reynolds Ranch property and they are also planning to consolidate the Smith Ranch and Highland permits. This will result in a combined mine permit area some 41,000 acres in size. PRI is planning to increase their throughput capacity next year and add approximately 30 people to their current staff of 100. They are also considering adding facilities to provide toll milling services to process feedstock from other operators.

Given that PRI's operation has for many years been the major uranium producer in Wyoming, there is an expectation that the operation might serve as a model for excellence in ISL mining. Unfortunately, this is not the case. There are a number of major long-standing environmental concerns at this operation that demand immediate attention. Recommendations are made as to how to address these concerns.

Currently the uranium industry is experiencing a major boom. Drilling and pre-permitting investigations are proceeding on many different properties around the state, including several owned by PRI. The LQD is expecting numerous new ISL mine permit applications within the coming 12-18 months. This increase in workload will be a major challenge for the LQD staff. Achieving regulatory effectiveness and efficiency will be a high priority for LQD and it will require the cooperation of the industry.

Major Regulatory Issues and Concerns with Permits 603 & 633:

1. Mine Permit:

The mine permit document is the primary regulatory mechanism governing the operation. The mine and reclamation plan should describe in detail how the operation will be conducted so as to comply with all of the major regulatory requirements. The mine and reclamation plans should be updated and maintained so as to be a definitive reference for the operator, the regulatory agencies, and also the public. Having a definitive mine and reclamation plan is particularly important for new staff. In the case of the Smith Ranch - Highlands operation (mine permits #603 and #633), the plans contained in the permit document are out of date and incomplete in several important areas. The following major deficiencies were noted:

- A. The approved mining and reclamation schedules are not being followed and are not current. PRI is not conducting contemporaneous restoration as required by their permit and WDEQ-LQD regulations. See discussion under item 2, below.
- B. Spill detection, reporting, delineation, remediation, follow-up and tracking protocols are not defined in the permit and should be. PRI experiences spills on a routine basis. See discussion under item 3 below.
- C. Groundwater restoration processes, facilities and procedures (incorporating and defining BPT), flow rates and time schedules should be thoroughly described in the permit so that expectations are clear. This has implications for bonding also.
- D. Waste disposal facilities and processes should be clearly defined for all waste streams. One example of inaccurate information in permit #603 (on pages OP-15 and 19) states that byproduct solid waste materials will be disposed at the ANC Gas Hills facility (which closed in 1994). This waste actually goes to the Pathfinder Shirley Basin facility.
- E. Construction details and specifications should be thoroughly described for critical process installations, including wells, pipelines, header houses, ponds, etc. One example of inaccurate information in permit #603 (on page OP-24) states that well casing joints are fastened with screws. This practice is not consistent with the regulations and was discontinued years ago.
- F. Topsoil protection procedures are not adequately defined to assure that disturbance is minimized and that the soil resource is protected. PRI's typical wellfield installation procedures result in the near total disturbance of the native vegetation and soils. This is not consistent with the regulation that allows for "minor disturbance" without topsoil stripping. More definitive procedures should be implemented to restrict and consolidate disturbance from roadways and pipelines and to insure careful topsoil salvage from well sites, mud pits, pipelines, roadways, etc.

With the permit updates required by Chapter 11 and the proposed consolidation of the Highland and Smith Ranch permits, now is an opportune time to correct permit deficiencies and construct a permit that is informative and useful to all parties.

2. Contemporaneous Reclamation:

One of the fundamental requirements for any mining operation is that reclamation be conducted concurrently with mining. Not only is this the most efficient operational strategy but it also insures that the reclamation liability is kept at a reasonable and manageable level. This approach ensures that the public is protected in the event of a forfeiture.

The schedule in permit #603, Highland, dates from 2005. An identical schedule was provided in the July, 2007 annual report. That schedule shows that restoration of the C wellfield should have been completed in 2006 and decommissioning should now be in progress. In actuality the restoration of the C wellfield has been on-going for ten years and the RO treatment phase has only just recently begun. According to the schedule, restoration of the D wellfield should have commenced in 2006 and restoration of the E wellfield should have commenced in early 2007. The annual report states that both the D and E wellfields are still in production. According to the schedule there should now be five wellfields in production (D-ext, F, H, I & J), two in restoration (D & E) and three restored (A, B & C). In fact there are currently 7 wellfields in production, one in restoration (C), and only 2 restored (A & B) at Highland.

The schedule contained in permit #633, Smith Ranch, dates from 1998. A more current schedule was provided in the July, 2007 annual report, yet even this recent schedule is not being followed. According to that schedule, wellfields 1, 3 and 4/4A should now be in restoration. Production from these wellfields was started in 1997, 1998 and 1999 respectively. Restoration of wellfield 1 is to be complete by mid 2008 and restoration in wellfield 2 is to commence in early 2008. However, as reported in the annual report only wellfield 1 is in restoration (no completion date stated) and no mention is made of any other planned restoration. In addition, a new wellfield (K) went into production this year and it does not even appear on the schedule. According to the schedule there should now be three wellfields in production (2, 15 & 15A) and three in restoration (1, 3 & 4/4A). In fact there are currently five wellfields in production and only one in restoration. No wellfields have been restored at Smith Ranch.

It is readily apparent that groundwater restoration is not a high priority for PRI. Reclamation is not contemporaneous with mining. A total of 12 wellfields are now in production and restoration is proceeding (slowly) in only 2 wellfields. Only 2 wellfields (A and B) have been restored in 20 years of operation. The permits project that production will typically last for 3-5 years per wellfield and restoration will take 3-5 years per wellfield. It appears in reality that both production and restoration timeframes have doubled or tripled and yet additional wellfields are being brought into production.

It is recommended that a notice of violation be issued to PRI for failure to conduct concurrent reclamation and failure to follow the approved schedules. A rigorous compliance schedule should be implemented to accelerate restoration. A thorough re-evaluation of the operation schedules is warranted. As pointed out below, new deep disposal wells (DDW's) and RO units will be required to support restoration operations. LQD approval of the Reynolds Ranch amendment as well as any new wellfields should be contingent on installation of appropriate DDW's and RO units and completion of restoration in existing wellfields.

3. Spills, Leaks and Excursions:

Over the years there have been an inordinate number of spills, leaks and other releases at this operation. Some 80 spills have been reported, in addition to numerous pond leaks, well casing failures and excursions. Unfortunately, it appears that such occurrences have become routine. The LQD currently has two large three-ring binders full of spill reports from the Smith Ranch - Highland operations.

Protocols for spill detection, reporting, control, delineation, remediation and tracking should be defined in the mine plan to cover all potential fluid types (injection fluids, production fluids, waste fluids, chemicals and petroleum products) and all potential sources (buried pipelines, surface pipelines, wellhead fittings, headerhouses, ponds, well casing failures, etc.). Protocols should include mapping and delineation of the extent of soil and/or groundwater contamination associated with each occurrence. A GIS system should be developed to facilitate long term tracking of all spills and releases. An updated cumulative spill map showing all historic spills and releases should be presented in each annual report along with documentation of follow-up actions. Excursion protocols are addressed in some detail in the permit, but excursions should be tracked on a cumulative basis in the annual report.

Cumulative tracking of spills and releases is important to insure appropriate follow-up on every incident. Some of the spills may have little impact individually, but cumulatively they might have a significant effect on soils and/or groundwater. A cumulative record will also assist in pinpointing potential problem areas and developing appropriate preventative measures. PRI should develop and implement an inspection and maintenance program designed to prevent future spills. Spills should not and need not be an accepted consequence of ISL mining.

4. Reclamation Cost/Bonding:

The reclamation cost estimates contained in PRI's annual reports assume completion of all groundwater and surface reclamation in 4 years with a staff of 26 people (1/4 of current staff), using the existing facilities with the addition of only 2 new 400gpm RO units. This scenario is totally infeasible and unsupported by any critical path timeline or water balance. Rough calculations based primarily on PRI's figures reveal an alarming scenario.

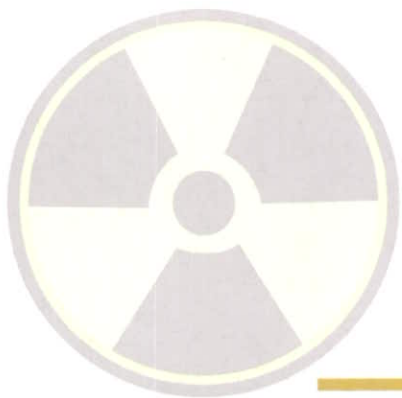
- Adding the pore volumes for all of the existing wellfields gives a total pore volume (PV) for the project (excluding restored wellfields A&B) of 5,133 Ac.Ft.
- PRI's bond calculation includes only one PV of groundwater sweep, vs three PV's specified in the permit. [Removal of this volume of water from the aquifer would be problematic and warrants further evaluation.] PRI's four existing deep disposal wells (DDW's) have a combined capacity of approximately 600gpm (@100% availability). Disposal of one PV would take more than 5 years! This is not an acceptable schedule. A more reasonable scenario would require at least doubling the disposal capacity (1,200gpm), which would require 4 or 5 new DDW's. These would also be needed for disposal of RO brine and should be included in the bond.

- PRI's bond calculation includes only 3 pore volumes of RO treatment. The approved reclamation plan specifies circulation of a total of 6 PV's (3 groundwater sweep and 3 RO). It is likely that at least 5 PV's of RO treatment would be required if only one PV of groundwater sweep was completed. Using the five existing RO units on the site, plus two new 400 gpm units included in the bond calculation, producing a combined total of 1,360gpm of permeate (@80/20 permeate to brine ratio @100% availability), it would take 854 days (2.3 years) to treat one PV! It would take at least 11.5 years to treat 5 pore volumes. This is a not an acceptable schedule. A more realistic reclamation scenario would require increasing the RO capacity by 2-3 times (3,000 - 4,000 gpm permeate production). The additional RO units, as well as the additional building space, ancillary treatment facilities and piping, should be included in the bond.
- Using the existing RO units (plus the two bonded RO units) and existing DDW's, reclamation would take 20+ years, assuming groundwater restoration was achieved without any problems. (5 years for one PV of GW sweep + 11.5 years for 5 PV's of RO treatment + 1 year stability monitoring + 1 year decommissioning + 1 year of surface reclamation). Clearly this is not an acceptable schedule, but it does point out the need for reevaluation of the reclamation plan, restoration schedule and the bond calculation.
- PRI's bond calculation includes minimal funds for new infrastructure, maintenance, replacement and repair. Only two new 400 gpm RO units are included in the bond estimate. The need for new wells, including DDW's, water storage and treatment ponds, additional RO units, membranes, pumps, piping and general wellfield renovation should be anticipated and included in the bond calculation.
- PRI's bond calculation assumes a staff of only 26 people, with 22 of them on a salary of only \$34,000 per year! If their current operations require a staff of 100 people then it will take at least 1/2 to 2/3 of that staff to conduct restoration. The restoration operations will look very similar to production operations. Operation of RO units, in particular, is very high maintenance and labor intensive. Retaining competent staff will require that wages and benefits be at least \$50,000 per year.
- Considering that reclamation will take several times longer, require at least twice the staff with higher wages and require much greater investments in infrastructure than PRI has estimated, a realistic reclamation cost estimate for this site would likely be on the order of \$150 million, as compared to PRI's current calculation of \$38,772,800. PRI is presently bonded for a total of only \$38,416,500. No bond adjustments have been made since 2002. Clearly the public is not protected. It is recommended that PRI's bond be immediately raised to a level of \$80 million until a thorough evaluation, including critical path analysis, can be completed and an appropriate bonding level established. No permit amendments should be approved or new wellfields authorized until the bonding situation is corrected.

5. Regulatory compliance:

Achieving environmental compliance at an operation of the size and complexity of PRI's Smith Ranch - Highland Mine requires a high level of commitment from both the company and the regulatory agency. PRI's environmental efforts have suffered from inadequate staffing, high turnover, lack of institutional memory and a low level of corporate commitment. There has been a lack of continuity and follow-through on many issues. At this point in time, overall environmental compliance at this operation is poor. PRI should retain a full-time environmental staff of 4-5 qualified people, including a groundwater hydrologist to manage the groundwater restoration. It is recommended that LQD immediately assign a staff person full-time to manage this project as their #1 priority, and that monthly inspections be conducted to get a handle on the issues identified in this investigation.

End of Report

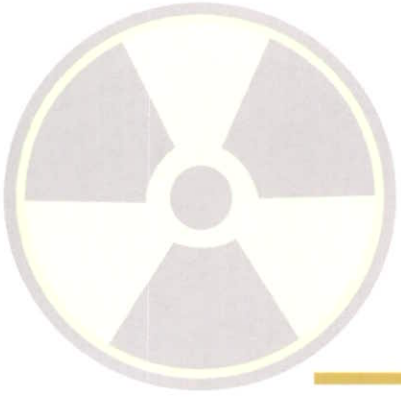


In Situ Mining Above Ground



ATTACHMENT B

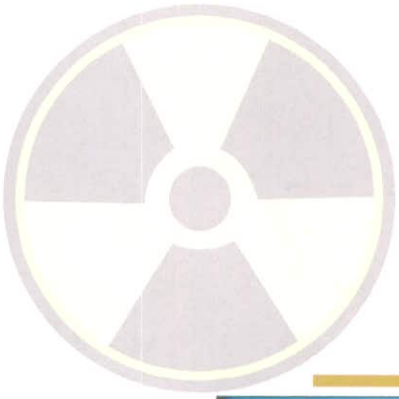
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Kingsville Dome In Situ Site, TX.



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Trevino In Situ Site Hebbronville, TX.

ATTACHMENT D



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Smith Ranch In Situ Leach Mine from a satellite, Wyoming

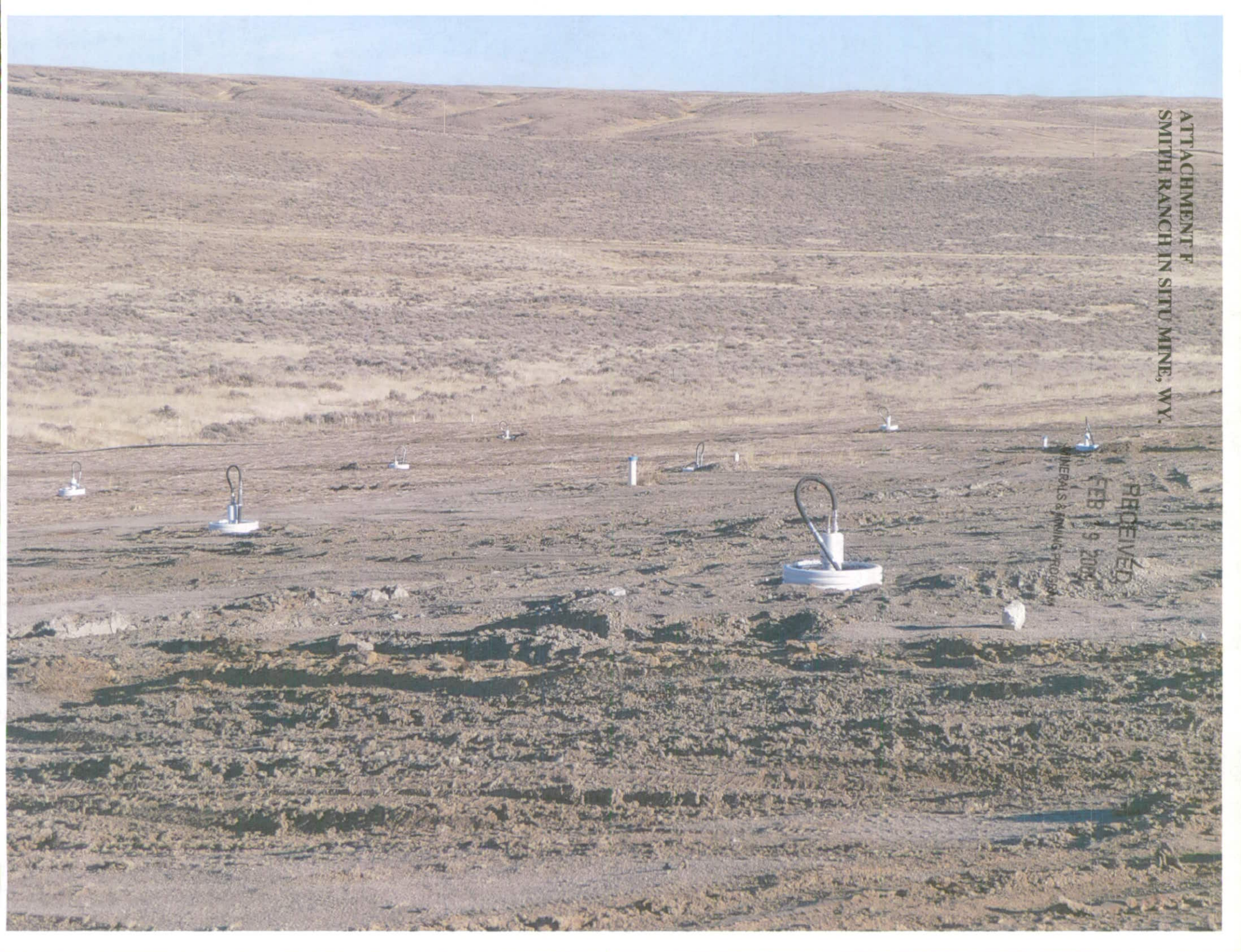
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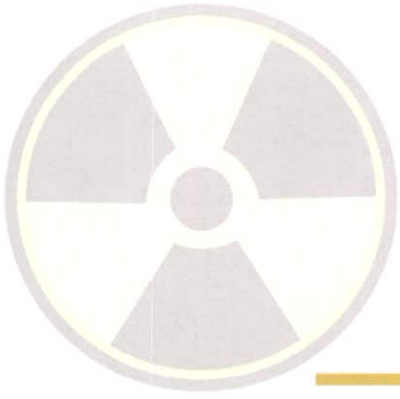
ATTACHMENT F
SMITH RANCH IN SITU MINE, WY.

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Smith Ranch In Situ Mine, WY.



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POWERTECH URANIUM CORP.
(An Exploration Stage Company)
MANAGEMENT DISCUSSION AND ANALYSIS
(January 22, 2009)

GENERAL

The following discussion of performance, financial condition and future prospects should be read in conjunction with the consolidated financial statements of Powertech Uranium Corp. (the "Company") and notes thereto for the quarter ended December 31, 2008 and the year ended March 31, 2008. Additional information is available on SEDAR at www.sedar.com. References to "CAD\$" refer to Canadian currency and "\$" to United States currency.

DISCLAIMER FOR FORWARD LOOKING INFORMATION

Certain statements in this quarterly report are forward-looking statements, which reflect management's expectations regarding the Company's future growth, results of operations, performance and business prospects and opportunities. Forward-looking statements consist of statements that are not purely historical, including any statements regarding beliefs, plans, expectations or intentions regarding the future. Such statements are subject to risks and uncertainties that may cause actual results, performance or developments to differ materially from those contained in the statements. No assurance can be given that any of the events anticipated by the forward-looking statements will occur or, if they do occur, what benefits we will obtain from them. These forward-looking statements reflect management's current views, are based on certain assumptions, and speak only as of December 31, 2008. These assumptions, which include, management's current expectations, estimates and assumptions about certain projects and the markets the Company operates in, the global economic environment, interest rates, exchange rates and its ability to manage its assets and operating costs, may prove to be incorrect. A number of risks and uncertainties could cause its actual results to differ materially from those expressed or implied by the forward looking statements, including, but not limited to: (1) the risk that nuclear energy will not be accepted by the public as a safe and viable means of generating electricity; (2) a downturn in general economic conditions in the United States, Europe and internationally; (3) a decrease in the demand for uranium and uranium related products; (4) the number of competitors; (5) the uncertainty of government regulation in the United States, Europe and internationally; (6) political and economic conditions in uranium producing and consuming countries; (7) delays in the receipt of any permits or approvals required for the Company's operations; (8) failure to obtain additional capital at all or on commercially reasonable terms; and (9) other factors beyond the Company's control.

There is a significant risk that the Company's forecasts and other forward-looking statements will not prove to be accurate. Investors are cautioned not to place undue reliance on these forward-looking statements. No forward-looking statement is a guarantee of future results. The Company disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Additional information about these and other assumptions, risks and uncertainties are set out in the section entitled "Risk Factors and Uncertainties" in the Company's annual Management Discussion and Analysis for the year ended March 31, 2008.

NATURE OF BUSINESS

The Company is a Toronto Stock Exchange ("TSX") (symbol "PWE") and a Frankfurt Stock Exchange (symbol "P8A") listed mineral exploration/development company which, through its wholly-owned subsidiary Powertech (USA) Inc., is focused on the exploration and development of uranium properties in the United States.

POWERTECH URANIUM CORP.
(An Exploration Stage Company)
MANAGEMENT DISCUSSION AND ANALYSIS
(January 21, 2009)

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MINERALS & MINING PROGRAM

Directors and Officers

The Company's Board of Directors that were re-elected at the Annual and Special General Meeting of the Shareholders held on July 15, 2008 are Wallace M. Mays, Richard F. Clement, Jr., Thomas A. Doyle, Greg Burnett, Douglas E. Eacrett, Malcolm Clay, Robert Leclère, and Gérard Pauluis.

The Company's current officers include the following persons:

Wallace M. Mays	Chairman of the Board, Chief Operating Officer
Richard F. Clement, Jr	President, Chief Executive Officer
Thomas A. Doyle	Chief Financial Officer, Vice President – Finance and Treasurer
Greg Burnett	Vice President – Administration and Secretary
James Bonner	Vice President – Exploration
Richard Blubaugh	Vice President – Health, Safety and Environmental Resources
John Mays	Vice President – Engineering

MINERAL PROPERTY INTERESTS

South Dakota, USA

Dewey-Burdock Project – Custer and Fall River Counties

Through December 1, 2008, the Company's Dewey-Burdock Project is comprised of 18 mining leases covering approximately 14,000 net surface acres and 7,300 net mineral acres. The Company has purchased approximately 560 net mineral acres. In addition, the Company staked and acquired 238 mining claims in Dewey-Burdock covering approximately 4,700 acres. In December 2008, the Company purchased 59 mining claims in the Dewey--Burdock area from Bayswater Uranium Corporation ("Bayswater"). This purchase included other mining claims and State mining leases located in two of the Company's Wyoming exploration prospects, see discussion below.

During January 2009, the Company acquired 124 claims and 30 leases covering approximately 6,000 acres, from Neutron Energy, Inc. ("Neutron"), in exchange for some of the Company's noncore properties in New Mexico, Wyoming and South Dakota. In South Dakota, the Company transferred to Neutron approximately 360 acres of claims and leases, along with associated historical drilling data. The acreage is located several miles away from the Dewey-Burdock project. See discussion below regarding the New Mexico and Wyoming exchanges.

The Dewey-Burdock deposit contains National Instrument 43-101 compliant inferred uranium resources of 7.6 million pounds with an average grade of 0.21% U₃O₈, and is located in the well-known Edgemont Uranium District. Thirty-four mining claims, included above, were staked within the project area to correct defects associated with County filing requirements on some fractional claims located in 2007 and acquire additional buffer lands for the Aquifer Exemption boundary.

A new uranium exploration permit application for 30 additional drill holes was submitted to the South Dakota Department of Environment and Natural Resources ("SD DENR"). The purpose of this new drill program is to confirm that the area for the proposed plant site will not be built over potential ore. The drilling program was approved by the Board of Minerals and Environment at the November 19, 2007 hearing. Drilling is scheduled to begin upon issuance of the permit and acceptance of surety bond.

The following major milestones have been completed through January 22, 2009:

- The draft Technical Evaluation Report ("TER") and Environmental Report ("ER") that will be submitted to the U.S. Nuclear Regulatory Commission ("NRC") are undergoing technical and administrative reviews both internally and externally, prior to completion and submittal.